The social significance of passenger-carrying paddle steamer operations in Britain in the first half of the nineteenth century

Thesis

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TEXT BOUND INTO THE SPINE

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ABSTRACT

This thesis is an exploration and analytical discussion of the socio-economic response of British society to the introduction of a revolutionary means of travel, made possible by the innovative technology of the passenger-carrying steamboat.

In order to establish the technological and societal contexts, the study first sets out an abbreviated account of the technical history of steam navigation, and of the characteristics of the societies of England and Scotland. Presentation of the leading features of British society introduces one of the most significant questions raised throughout the study, which asks to what extent application of the new technology may have been associated with a social widening of opportunities to travel, in a society characterized by extremes of social differentiation.

The historical account is set out so as to explain the beginning and consequential development of steam navigation in Scotland; the profitable exploitation of the technology in rapidly growing operations on the Thames; the uniquely British passion for the seaside holiday and the associated role of the steamboat; and finally the different characteristics of coastal operations. One of the most significant findings of the study, however, comes from examination of early steamer operations in the north Midlands. Contrary to accepted views of technology transfer, it has been found that, after initial applications in Scotland, the first users to put steamers into regular passenger service were not entrepreneurs in London, but businessmen at the inland port of Gainsborough. Investigation of operations there, and its significantly improved communication with Hull, has also opened up new and fruitful examination of the role of the steamboat on inland waterways linked with Northern industry, as well as new reasoning about the improvements in service and accommodation that accompanied the introduction of steam navigation.

T. R. S. Pledger

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The introduction of the innovative technology of steam navigation in Britain began in Scotland. Much related archival material on early steamboats, and on the preceding development of the steam engine, is preserved in Glasgow and in the region of steamboat operations in the area west of Clydeside. Special thanks for their generous help in locating local material and providing information about early steamboat operations are owed to numerous librarians in the area. Particularly appreciated is the information contributed by the author and local historian Ian Maclagan of the Buteshire Natural History Society. Grateful thanks for information about various aspects of local history are also due to Murdo MacDonald, Argyll and Bute Council, Ochilhead, to Eleanor Harris, Argyll and Bute Council Library Headquarters, Dunoon, to Enda Ryan, Senior Librarian, Archives and Special Collections and C. Henderson and Carol Gallagher, Glasgow City Council; and to Alastair Smith, Curator, Cultural and Leisure Services at the Museum of Transport, Glasgow. One published work of outstanding relevance to the early history of commercial steam navigation is the virtually definitive biography of Henry Bell, *The Ingenious Mr Bell,* by the recently deceased Brian Osborne. It is appropriate to acknowledge with special thanks the kindness of Mr Osborne's publishers,

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Introduction

Within the rapidly expanding industrial scene of late eighteenth-century Britain, the steam engine might rightly have been viewed as 'the sun-god of all power', the term once used for it in the twentieth century (1). As evidence grew of the steam engine's capacity to drive machines, men were attracted to the prospect of using it as a prime mover for travel and transport. Improved rivers and the newly-created canals were then the arteries of the country's industrial transport system; inevitably one aim of innovators was to work out how the steam engine could be used to propel cargo-carrying vessels on these waterways. Early in the nineteenth century, efforts to find a workable form of steam-powered canal boat were realised, and the resulting first commercially usable vessel made for this purpose was demonstrated in Scotland.

The fundamental importance of that occasion cannot be overstated. The arrival of the first steam-powered vessel introduced mechanised locomotion to a world that previously had no experience of travel or transport other than by the use of human or animal muscle, or by the force of the wind. Beyond this goal of achieving mechanically powered transport stretched the prospect of commercial exploitation on an unimaginable scale. In the event, the innovators' initial aim, which was to put steam-powered boats into industrial service on canals, was not immediately achieved. Canal owners, fearing that craft propelled by paddle wheels would damage canal banks, withdrew their support. But this demonstration of the steamboat's potential inspired wider entrepreneurial ambitions; other men saw a future for the steam engine in carrying passengers, and from that first seminal concept a new form of travel was born. Within a few years, passenger-carrying

paddle steamers (2) were operating on the Hudson River in America (3), thronging the Thames in London and the Clyde in Glasgow, and providing holiday transport for many thousands of people around Britain. A new dimension in personal travel had been created, and its social significance forms the subject of this study.

Investigation of the topic was originally prompted by learning of a fact, not previously appreciated, about the introduction of mechanised travel in Britain. This was to the effect that it was not the railway, but the steamboat, that '... first demonstrated the meaning of mass transport ...' (4). A decade or more before the introduction of railway travel, thousands of Londoners each summer were making leisure trips down the Thames by steamboat, and Scots in similar numbers were using the steamboat services that rapidly developed on the Clyde. It was clear that the socio-economic consequences associated with the introduction of this early form of popular travel must have been substantial, and that there would be considerable scope for exploring their form and extent.

In order to arrive at a meaningful assessment of the social, economic and cultural relationships involved, the study clearly had to encompass the whole of the relationship between the arrival of the new technology, and the society into which it was introduced. Unlike a study investigating presupposed or conjectural causes and effects at a specified location and with defined parameters, research for the consequential aspects of this topic had to begin rather like the exploration of unknown territory. But even without knowledge of the history of the subject or the various social implications, the potential soon became obvious. Existing accounts of the work of innovators in steam navigation, histories of early steamboat operations, and statistical records of the growth of mechanised

transport were enough to suggest that there would be many instances where relationships between society and the new technology would be worth exploring.

Since much of the history of early steamboat technology was on record, it was necessary to consider first whether a related social study might already have been made. Had a comprehensive investigation of the social significance of the introduction of steam-navigation technology already been presented, or had the subject been a key element of any other previous wider studies? At the time when this study was first contemplated, this did not appear to be the case. The introduction of steam navigation as part of the growth of industrialization had certainly been featured in published works, but mostly as components of more general histories of technology (5). Similarly, the history of shipping and marine engineering has been the subject of many published works, and it is usual for the most comprehensive of these to include accounts of early steamboat operations (6). However, all such are for the most part historical, technical or commercial, or have been written by and for the transport-history enthusiast (7). When work on this study began, it was possible to say with some confidence that no comparable wide-ranging examination of the *social* significance of the introduction of steam-navigation technology in Britain had been published.

As far as can be ascertained, this assertion now remains fundamentally correct. However, the publication of a new work on one particular aspect of the social role of the early steamboat makes it necessary to raise the question again. The essay 'The Steamboat and Popular Tourism' by John Armstrong and David Williams, for publication in the *Journal of Transport History* (8), deals at length with an aspect of steamboat history which undoubtedly forms part of its social impact, and thus in effect overlaps an important part of the subject presented here. The essay similarly makes the initial point that it was the steamboat, and

not the railway, that led the introduction of popular travel. The review by Armstrong and Williams of evidence of the steamboat's function in the development of leisure travel makes a conclusive case for its role in laying the foundations of modern tourism. In the context of holiday travel, the essay and this study cover much common ground. But the examination of the social impact of the early steamboat undertaken here, extending more widely in its areas of interest and more fully in terms of socio-economic consequence, is arguably not compromised. In this study, discussion of the part played by the introduction of steam navigation in facilitating leisure travel is simply a starting point. This is followed by a wide-ranging exploration of the social significance of passenger travel by steamboat, from the first enterprises launched on the Clyde and the Thames, to the inland steamboats serving commercial needs in the north of England, the relationship of early steamer operations to the development of seaside resorts, and the introduction of steamboats in coastal operations. This wider study has not only brought a more comprehensive discussion of the socio-economic changes associated with the introduction of steam navigation, but has also led to consideration of revised views on the regional transfer of technology and the management of passenger travel services.

It is clearly of interest to ask why the socio-economic significance of this technological advance has previously attracted little historical attention. Three reasons might be put forward to account for this. One is that the importance of the arrival of steam navigation was largely submerged in the accelerating tide of all-round nineteenth-century technological progress. Another is that the pre-railway heyday of the paddle steamer as a popular passenger carrier was brief, and its importance soon lost sight of amid interest in the vastly greater socio-economic impact of rail transport. Thirdly, the technical contribution of paddle-wheel

propulsion, the key to the initial technological advance, was ultimately no more than a brief phase in the development of marine engineering.

Nevertheless the social importance of the introduction of steam navigation, and of the implementation of the paddle steamer as an entirely new means of travel, was clearly substantial, and thus warranted further study. For many people in the early nineteenth-century society of Britain, the arrival of the steamboat brought unprecedented opportunities for travel, in circumstances that would not only be novel, but also would reflect and influence societal behaviour. It soon became apparent that the initial form in which the new technology was designed and presented had to meet requirements dictated by cultural and behavioural pressures. The social issues associated with this technological innovation clearly offered much material for research and analysis.

At an early stage of study, it became clear that for effective comprehension, two informational requirements would have to be met. Firstly, it was going to be important to explore and then explain the history of the technology itself. The study thus begins with an abbreviated history of the development of the paddle steamer. Although essentially technical, this first chapter also identifies the strength of the socio-economic forces impacting on technological development. The form taken by passenger-steamboat technology was clearly influenced by the need to respond to a social demand; moreover, examination of the technological development revealed interesting aspects of the interweaving of entrepreneurial and technical aims that characterized much eighteenth and early nineteenth century commerce.

Secondly, it was equally necessary to identify the societal context, and to determine its relevance to the introduction and the commercial exploitation of

steam navigation. Accordingly, chapter 2 presents a socio-economic picture of contemporary British (9) society, outlining relevant aspects of national character, social structure, behaviour, cultural trends and commercial ethics of Georgian and Regency England and Scotland. The totally class-divisive nature of English society identified in this chapter gives point to the discussion, throughout later chapters, of the prospect of the paddle-steamer bringing a social widening of travel opportunities. Initially, travel by steamboat was the preserve of the wealthy. A singular passion for holidays at the seaside, growing from an aristocratic desire to seek health and recreation at the spa, is shown in this chapter to be one of the most important motivations for the rapid growth of steamboat operations. Another related cultural phenomenon influencing the market for steamboat travel was a new aesthetic appreciation of landscape and the countryside. The significance of social class in Britain, above all, is an overriding theme throughout.

After the need for exposition of the technological and societal scene had been established, how was the work of research into the form, detail and social implications of paddle steamer operations to be undertaken? Firstly, an outline of the potential scope of social involvement came from a review of the relevant historiography, across the whole range of topics directly and indirectly dealing with the early paddle steamer. From this it was possible to arrive at a generalized picture of the paddle steamer's history in Britain, with key reference points and locations identified for further exploration. Attention could then be focused on the social significance of successive phases of the early steamboat's progression, from the pioneering launch on the Clyde in 1812, through expansion to London and the Thames in 1815, and to the related development of seaside resorts and coastal travel.

It became apparent that research for the technical history and the societal context, chapters 1 and 2, would have to begin with, and to a large extent rely on, a study of existing biographical and historical material. For the technical account, there was no point in trying to put together the story of the steam engine's development, for example, by writing a new life of James Watt from primary sources. The important requirement, rather, was to examine and analyse the widest possible range of existing histories of the technological development from a new and more socially oriented viewpoint. It was this fresh examination and comparison of existing material that gave rise to questions about various aspects of the development of the technology, and in particular about the motivations involved in commercial exploitation. Similarly, for the examination of the societal context undertaken in chapter 2, existing works have provided the historical structure, around which the socially oriented questions related to the introduction of steam navigation could be deployed.

An omnivorous methodology in the collection and recording of material was seen as essential, and in the event proved to be advantageous. Every reference to the subject of early steam navigation, even if indirect, was potentially of value, as were all related instances of contemporary social behaviour. Searches for appropriate material were initially focused on local archives, libraries and the work of historical societies. It became apparent that contemporary accounts penned by local historians or diarists, though scarce, were among the most valuable items of information. Local and regional directories and guidebooks were a useful source of material. Even when not carrying references to steamboat operations, many were of value for information about the regional trades, commerce and industry that could influence their introduction.

Contemporary local newspapers, though thin on the ground in the earlier years of the period investigated, proved to be the best sources of information about travel and transport activities. To gather this material, comprehensive examination and recording proved to be worth all the considerable amount of time spent on it. As steamboat operations developed, newspaper advertisements for their services were usefully precise sources of information. Records of activities of this kind were not only valuable for their own content, but also newspaper coverage of local and regional commerce was notably useful for its inferential picture of associated activities, sometimes providing useful insights into aspects of contemporary life. Above all, newspapers constantly carried reminders of one massively over-riding social characteristic – the gulf between the educated and influential minority to whom the newspapers were addressed, and the mass of the working poor, virtually regarded as a barely-human separate species. The revealed attitude of the educated to the poor not only colours every consideration of the social widening of travel opportunities, but also puts into perspective the recorded instances of steamboat management characterized by morally indefensible treatment of the lower classes.

The setting-out of the study was ultimately arranged in a chronological sequence, which also allowed a logical order of regional and commercial operation. Developments in Scotland, where practical steam navigation originated, are treated first, after the introductory technological and societal chapters. The expansion of steamboat operations that followed the launch of the first passenger-carrying steamboat service on the Clyde is almost unique in demonstrating the consequential relationship between social desires and technological development, and in turn the social consequences arising from the application of that technology. More than in any other part of Britain, the arrival of the steamboat was associated with profound socio-economic change in parts

of the Highland and Western Island regions, and the social role of steam navigation there is examined at length.

One generally held understanding of progression in the early days of steam navigation is that after the pioneering launch in Scotland, the next location for the introduction of fully commercial steamboat services was the Thames in London. Investigations made for this study now show that the accepted understanding of this chronological sequence must be revised. Roughly a year before effective steamboat services started on the Thames, passenger-carrying steamer operations were begun on the river Trent in Lincolnshire, initiated by a group of tradespeople at the inland port of Gainsborough. The port of Hull also rapidly became a focal point of inland steamer services, linking up with York and the industrial towns of the West Riding.

In identifying these early business-based operations, this study opens up an area of technological and socio-economic change little previously examined, probably because much of it falls outside coverage of the more fully recorded steamboat operations on the Clyde, the Thames, and on routes to seaside resorts. One finding about operations on the river Trent is of special interest in revealing the potentially two-edged nature of change. As passenger steamboat services became a regular daily facility, advantages accrued for regional business, but the self-contained economies of small riverside communities suffered, once villagers became accustomed to using steamboat services for quicker and easier access to city shops.

Research into business-oriented operations has also led, in this chapter, to an original, if conjectural, explanation for the superior quality of accommodation and service that was introduced on paddle steamers, right from their first

inception on the Clyde. This was in striking contrast with the conditions that had to be endured in the typical road coach and wayside inn. It is suggested that this apparently unprecedented concept in a fare-paying passenger service came from the entry of a new type of owner into the travel market, with a life style and expectations markedly different from those of the traditionally servant-class owners associated with stagecoach travel.

Expansion of steamboat operations in the years between 1815 and 1840 in London forms the subject of chapter 5. It was here that the desire for enjoyment of leisure, the most powerful motivation for the remarkably rapid growth of steamboat travel, was most fully revealed. The introduction of steam navigation brought enormous increases in the numbers of people indulging in travel for enjoyment. Within a few years of the start of steam services, bank-holiday occasions in London saw fleets of steamers, carrying enormous numbers of passengers, making their way to Thames-side and coastal resorts. It is clear that their numbers were so great that they would have included many of a social category describable, for want of a more precise term, as the working class of the day. The question of the extent to which the arrival of the steamboat was directly associated with this unprecedented social-class extension of leisure opportunity is one of the most important examined in this study. The implications of statistics, anecdotes and references by contemporary writers assembled in this study undoubtedly suggest that the extension of this kind of activity to the working class was substantial.

The development of paddle-steamer services to seaside resorts, the subject of chapter 6, also raises the question of working-class participation. Anecdotal evidence of the strength of the leisure-preference factor among the 'working poor', demonstrating determination to enjoy a taste of the seaside, appears to

reinforce the likelihood that many of them may have managed to travel by holiday steamer. As paddle steamer activity grew, visitors to seaside resorts were increasingly brought by organised excursions, and this development significantly raised the prospect of leisure travel being accessible more widely over the social classes.

Chapter 6 also discusses the relationship between the arrival of the paddle steamer and the social and commercial development of the seaside resort itself. Analysis is concentrated on evidence of strong class-based influences, and in particular on the dominant presence of the middle classes, who increasingly took the place of the aristocracy. Some seaside towns acquired distinct reputations associated with social class; the extent of the paddle steamer's role, and the related question of how much it may have contributed to any sharing of space afloat, are further topics brought forward for discussion.

In chapter 7, which is focused on coastal steamboat operations, the issue of class and the steamboat moves in part to the effects of the fundamental 'two societies' constitution of Britain in the early part of the nineteenth century. The lucrative business that paddle-steamer operators found in ferrying workmen from Ireland to harvest work in Scotland is discussed as a powerful reminder of a divided society's capacity to condone ruthless treatment of the poor. In the south of England, the functions of the seaside-resort paddle steamer, which were virtually all leisure oriented, widened in summer to include pleasure trips along the coast. The long east-coast shipping route linking London and Edinburgh was different again; here the entrenched position of sail, providing good services well attuned to the needs of the upper and middle class traveller, is shown in this chapter to have been one factor delaying the introduction of the new technology.

From the socio-economic and cultural exploration of paddle-steamer operations undertaken in this study, it will be seen that two topics, leisure and social class, take on a predominant interest. It was a demand for leisure travel, from the affluent upper ranks of Regency society, that led to the first commercial application of steam navigation in Britain. The idiosyncrasies of social demand determined how the first paddle steamers should be designed. But although the passenger-carrying steamer continued to be essentially a vehicle for the upper and middle classes, it is reasonable to conclude that its introduction extended a previously unattainable travel facility to many of the lower social classes.

Notes and references

1. The term coined or quoted by Dr Jacob Bronowski as an epithet for the steam engine in J. Bronowski (1976), *The Ascent of Man*, London, Book Club Associates, p. 280.

2. From a twenty-first century viewpoint it is natural to use the term 'paddle steamer' for the type of vessel forming the subject of this study, because this distinguishes it from the familiar modern vessel equipped with a screw propeller. However, during the years covered in this study, the term 'paddle steamer' was not used at all, simply because, as far as the observer in the first half of the nineteenth century was concerned, there was no other type of steam-powered vessel. All steam-powered vessels were paddle steamers, and all were generally referred to as 'steamboats' or 'steamers'. The terms 'steam packet' and 'steam yacht' were also used, the former being appropriate when a steamboat was taking over the role of a sailing packet. The OED puts the earliest use of the term 'paddle steamer', in *Model Steam Engine* magazine, at 1895.

3. The American Robert Fulton had his *Clermont* steamboat in operation on the river Hudson in 1807, five years before the first commercial steamboat service in Britain.

4. J. Simmons (1991), *The Victorian Railway*, London, Thames and Hudson, pp. 271-2.

5. Typical of the treatment of steam navigation in histories of technology, without reference to social issues, is that in the authoritative T. K. Derry and T. I. Williams (1960) *A Short History of Technology*, Oxford, Oxford University Press, pp. 326-9. The social considerations associated with technological change form the main theme of S. Lilley (1948), *Men, Machines and History*, London, Cobbett Press, but this work is mainly concerned with broader issues such as industrialization and mass production. In T.C. Barker and C. I. Savage (1959), *An Economic History of Transport in Britain*, London, Hutchinson and Company, the introduction of

steamboats on the Clyde, Thames and Humber from 1815 is given brief coverage (pp. 70-2), but with no indication of social motivation or consequences.

6. Histories of ships and shipping examined for social content include:
A. Barjot and J. Savant (1961), *History of the World's Shipping,* London, Ian Allan, which includes brief accounts of the work of Fulton and J'Ouffroy.
P. Kemp (2002), *The History of Ships,* Rochester, Grange Books plc includes a section on the origins of steam navigation in Scotland but without social considerations. In F. H. Mason (1911), *The Book of British Ships,* London, Hodder and Stoughton, accounts of the introduction of steam are limited to the Navy and Admiralty policies.
By contrast, in B. Lavery (2001), *Maritime Scotland,* London, B. T. Batsford, socio-economic considerations are treated significantly, the author saying : 'Sea transport ... held the country together by a system of ferries ...', although he makes no link between the new technology of the steamboat and social change.

7. An important exception is the exemplary T. C. Barker and M. Robbins (1975), *A History of London Transport,* London, George Allen and Unwin, which provides (pp. 40-3, Vol. I), a brief but remarkably comprehensive socially-oriented account of steamboat activities on the Thames from 1815 to the mid 1840s.

8. J. Armstrong and D. M. Williams, 'The Steamboat and Popular Tourism', in the *Journal of Transport History,* Vol. 26 / 1 (2005), Leicester, Leicester University Press.

9. In fact, of the English and Scottish societies taken separately. The eighteenth-century English usage of 'British' is examined further in chapter 2.

1

The development of steam navigation technology

The introduction of commercial steam navigation into Britain at the beginning of the nineteenth century had socio-economic origins, and brought social consequences, that say a great deal about the mutually influential relationship between technological change and society. The nature of the society into which passenger-carrying steamboats were first introduced, the socio-economic and cultural influences on their form and application, and the social significance of resulting steamboat operations, are explored in the following chapters of this thesis. First, however, this chapter gives a brief technical account of the introduction of steam navigation, in order to provide a history of technical development to which social analysis can be related. Its most relevant purpose is to show how the direction of a technical innovation can be influenced by its socio-economic context, and conversely how the introduction of a technical innovation can be a force for augmenting or modifying incipient behavioural change in society.

The paddle steamer, which was the first form of mechanically driven water-borne vessel to be launched in any numbers, came from the convergence of two streams of technological development – the concept of propelling a boat or ship by using a rotating paddle wheel, and the introduction of the steam engine as a source of mechanical power. This account is confined to the period after the power of steam was put to practical use in driving machines. It thus starts in the first half of the eighteenth century, when early forms of steam engine were coming into use industrially. The idea of the paddle wheel itself, as a mechanism for propelling a boat, goes back very much earlier, possibly even to the days of ancient Rome (1). However, it is not intended that the early history of the paddle wheel should be explored here; investigation for this study begins at the time when

innovators were first looking into the possibility of using the newly discovered steam engine for the propulsion of boats and ships.

It is fitting that this study should begin with an anecdote relating to one of the most significant turning points in the history of technology. In the year 1781, James Watt (1736-1819) (2), effectively the inventor of the practical steam engine, received a call for a change of direction from his commercial partner Matthew Boulton (1728-1809) (3). At the time, Watt was busy with his work on steam pumps for draining mines. In a letter dated 21 June 1781, Boulton wrote to him:

> ... the people in London, Manchester and Birmingham are steam mill mad. I don't mean to hurry you, but I think in the course of a month or two, we should determine to take out a patent for certain methods of producing rotative motions from ... the fire engine ... (4).

The commercially astute Boulton, a well-established manufacturer of metal stampings who had earlier seen the advantage of teaming up with Watt, knew the market for steam power was rapidly expanding. He also wrote to say:

> For my part I think that mills ... present a field that is boundless and ... will be more permanent and ... satisfactory than these inveterate, ungenerous and envious miners and mine lords (5).

Watt's inventive talents, he urged, should be turned away from making steam-driven machines ('fire engines') for draining Cornish copper and tin mines, and applied instead to developing a rotating engine for industry. Boulton's expression of his views of the changing market not only records a change that was in effect the starting point in the development of the practical rotative steam engine, but also demonstrates the principle of technological change being driven by demand. Out of that commercially directed

initiative came the widespread application of steam power to industry and transport, as Watt set about solving the problem of converting the reciprocating action of the Newcomen machine into continuous rotary motion.

Socio-economic conditions in Britain at the time were uniquely favourable for the innovative technological entrepreneur. One reason was the politically generated economic climate, which was sympathetic to competitive enterprise. Another was the pressure of commerce, which across the field from mining to manufacture was putting increasing demands on transport and production technology. Other countries were also, like Britain, making new discoveries in science (6), but advances in Britain were increasingly in the application of practical technology. The meeting of men of ideas at the Lunar Society in Birmingham (7), Boulton and Watt among them, now typified the emphasis on applied science and practical engineering that was helping to give Britain an industrial lead. In addition, another factor conducive to enterprise in British engineering was the country's experience in practical metalworking, in which Britain had a definable advantage.

Military competition with Continental rivals had for centuries been a recurring feature of British history. From Tudor times, the country's defence needs increasingly depended on naval strength, and in consequence a specialised industry had grown up, mostly of small-scale units, with experience in working in metals. It is reasonable to surmise that Britain's success in developing an industry able to handle the practical metalworking needed for industry was to a large extent the result of having a navy that demanded the best in guns and equipment.

According to Brian Lavery, a foremost authority on the sailing warship, 'The Navy in wartime was the largest single employer in the country, not only of seamen, but also of those who built and maintained ships, and supplied them with all their fittings, from

ships' boats to barrel staves, from copper sheets to anchors.' (8). On gunmaking, Lavery says: 'Ships' guns ... differed from the other articles aboard a naval ship, in that they were not under the direct control of the Admiralty ... Instead, they were contracted for, tested [and] supplied by the Board of Ordnance. The Ordnance Board itself did not make many guns. The great majority ... were cast by private companies and individuals, to specifications drawn up by the Board.' (9). As iron production changed from charcoal to coke-fired smelting in the early eighteenth century, gun founders moved north from London and south-east England, and established foundries in Birmingham, central Lowland Scotland, Nottinghamshire, Leeds and Sheffield. There was similarly a dispersion of the making of anchors, which called for a high level of competence in heavy-duty metal forging. Although the largest were usually made in the royal dockyards, smaller anchors were made by private forges, which usually had standing contracts to supply them as required (10). One result of this sovereign requirement for ordnance and equipment was that many private enterprises in Britain had become familiar, well before the introduction of the steam engine, with the kind of practical engineering that would be increasingly in demand in the nineteenth century.

When James Watt, prompted by that letter of Boulton's in 1781, started to concentrate on making a rotative engine, examples of the first working steam 'engines', which were actually steam-powered reciprocating pumps, had been in use for some seventy years. Most of these were built to the design put into practical form by Thomas Newcomen (1663-1729), who in 1712, at a coalmine in the west Midlands, erected the world's first working steam-powered machine, to pump water from the mine (11). A contemporary illustration of this machine, which credits Capt. Savery (1650?-1715) as well as Newcomen with building the engine (12), is reproduced in Fig. 1. The machine's operation was based on condensing steam in a cylinder, and allowing atmospheric pressure on the resulting partial vacuum to move a piston. The working principle is shown in simplified form in Fig. 2.

Use of the atmospheric principle for raising water had already been proposed or demonstrated by others, notably by Newcomen's collaborator Savery, and by Denis Papin (1647-1714) (13). Newcomen is nevertheless historically credited with being the first man to design a practical machine in which heat energy could be converted into an output of kinetic energy in a repeatable cycle of operation, and the first to build and set one up to do useful work in a commercially realistic situation.

The machine's primary application was to provide power for a lift pump; its introduction proved to be a godsend for mine operators who needed a better means of pumping water out of increasingly deep mines. Hundreds were installed at coalmines in Britain in the next half-century, and at the tin and copper mines of Cornwall. Further technical improvement, however, was slow. Sixty years after the building of Newcomen's first engine, the basic working principle remained unaltered, as can be seen from the drawing of a Newcomen engine of 1772 built by the engineer of lighthouse fame, John Smeaton (1724-94), reproduced in Fig. 3.

James Watt's first direct contact with the technicalities of steam power came in 1764. As a skilled maker of mathematical instruments, who had come back to Scotland after learning his trade in London, he was asked to repair a model of a Newcomen engine belonging to the College of Glasgow. After studying how it worked, he realised that a fundamental improvement could be made by modifying Newcomen's design. To make each power stroke, the steam in the cylinder had to be condensed, and this was done by injecting cold water into it, as can be seen in the illustration of Smeaton's engine. Watt reasoned that if the steam were condensed in a separate vessel instead of in the cylinder, less energy would be lost in heating the cylinder from cold for each stroke. With his resulting design of a separate condenser system, Watt secured a patent (No. 913 of 5 January 1769) for this 'new invented method of lessening the Consumption of Steam and Fuel in Fire Engines.' (14). A drawing made from Watt's sketch of the separate

condenser is shown in Fig. 4, which also shows the layout of a typical 1780s pumping engine incorporating this modification. Watt's separate condenser was without doubt the crucial energy-saving element that transformed the original Newcome engine into a widely practical source of power for industry.

Watt started work to build an engine using his separate condenser in 1765. In 1769 he was still struggling with practical problems, and it was 1775 before commercial production could go ahead (15). The improved efficiency of the new engine was such that Boulton and Watt were able to achieve a profitable position by arranging to be paid, on a twenty-five year contract, one third of the fuel cost saved compared with an existing 'common' engine (16). The engine was still essentially a reciprocating pump; at this stage neither Watt nor anyone else had managed to design a mechanism for converting its intermittent motion into the continuously running rotation required in a practical prime mover. After 1781, following Boulton's urging, Watt began to concentrate on that objective.

The simplest way to achieve rotation would have been by means of a crank, which would turn a crankshaft. But though the principle of this was then familiar enough in applications such as the treadle working the spinning wheel and the wood-turner's lathe, it was not seen as obvious or even practicable for handling the powerful separate strokes made by the Newcomen machine. While Watt was considering how to use it, James Pickard, a button manufacturer, secured a patent for the use of this simple device, incorporated in a drive mechanism devised by his employee Matthew Wasborough, in 1780 (17). This left Watt having to find other forms of drive; he sketched out several possibilities, and secured a patent, No. 1306 of October 1781, for 'Applying the reciprocating motion of steam engines to procure a circular motion around an axis', using a sun-and-planet gear system (18).

Before concentrating on making rotative engines, Watt had already taken the development of the steam engine a stage further with his invention of the 'double acting' principle. For this, the open top of the steam cylinder was closed, and steam introduced alternately above and below the piston. This allowed the energy contained in the steam to be used directly, instead of the power being derived simply from atmospheric pressure. The stage now reached in making a practical steam engine for industrial purposes is best illustrated by the drawing of the example, from the 1787-1800 period, shown in Fig. 5. This incorporated Watt's double-acting steam cylinder, the principle of which is shown in Fig. 5a, and his sun and planet gear drive. The double-acting cylinder greatly increased power output, but introduced a new problem. With force now being transmitted from the piston by pushing as well as pulling, some means had to be found to keep the direction of thrust in line. Watt dealt with this with another invention, his 'parallel motion' system; the linkage devised to achieve this is shown in Fig. 5b.

While Boulton and Watt focused their attention on making these stationary engines for industry, others were exploring ways of using steam power for transport. One of the earliest proposals for using a steam engine in a water-borne vessel had been put forward in 1736 by an Englishman, Jonathan Hulls (b. 1699), whose drawing (from his Patent No. 554, 12 December 1736), Fig. 6, showed a proposal for a towboat in which a rope and pulley-wheel drive and a counterbalancing weight arrangement were apparently to be used to transfer power from a Newcomen type engine to a paddle wheel at the stern (19). The paddle wheel later became effectively the standard means of propulsion for all early steamboats, but in passing it is worth noting that it was not the only method investigated. One very different concept came from another early experimenter, the American John Fitch (1743-98), who successfully demonstrated, in 1790, a vessel propelled by banks of oars mounted on outrigged frames (20). Another American innovator, James Rumsey (1743-92), was granted British patents in 1788 for proposals

for driving boats by means of legs acting on the bed of a water-course, and for a steam-driven water-jet system arranged under the hull (21).

A further early claim for success in making a paddle-wheel steamboat also came from two men of Kingston-upon-Hull in the 1780-90s. A local historian stated in 1866 that 'the first steam-packet constructed in England was built on the river Hull in 1796 ... [by] Mr Furness of Beverley and Mr Ashton, physician, who ... had a patent granted, and ... seventy pounds a year each for life [from] the then Prince Regent.' (22). Their patent, No. 1640 dated 4 March 1788, shows the proposal for 'Propelling Vessels – A new ... machine for working, towing, expediting, and facilitating the voyage of ships, sloops, barges and other vessels upon the water.' Although the positive historical reference and the credible detail of the design give this enterprise some plausibility, no evidence of the aims being realised can be found. Royal Archives at Windsor can neither confirm the alleged interest on the part of the Prince Regent, nor rule it out.

When the first confirmable demonstration of a vessel using a combination of steam engine and paddle wheel did eventually take place, it came from the enterprise of two Scotsmen. These were Patrick Miller (1731-1815), a merchant and banker with a passion for experimentation (23), and William Symington (1763-1831), a young engineer. In the 1780s, Miller was working on designs for boats driven by manually worked paddle wheels. To take his ideas further, Miller needed an engine capable of driving his paddle-wheel system. For this he went to Symington, who had already built steam engines of his own design, and supplied a number for industrial applications (24). Equipped with Symington's engine, a small vessel was tried out at Miller's Dalswinton estate in October 1788 (25). An artist's impression of this trial on the Dalswinton lake, which shows the small size of the vessel, is reproduced in Fig. 7. This also shows an illustration of the two-cylinder engine that Symington built for these experiments.

Haulage of goods on canals was seen at the time as one of the most important fields of activity for innovation in transport. The need to improve the industrial transport infrastructure in England had been growing since Stuart times, and the development of inland watercourses was one of the best ways of increasing transport capacity. Between 1630 and 1720, numerous 'river navigations' had been created, providing more navigable routes by widening and straightening rivers. In 1767, prospects for inland transport increased further, when the first canal functioning independently of rivers was completed. The spate of canal building that followed until the early 1800s created a transport network on which inland commerce was heavily dependent until the arrival of railways in the 1840s (26).

One of Scotland's most important canals, the Forth and Clyde, was completed in 1790. Lord Dundas, the governor of the company operating this canal, was aware of William Symington's engineering abilities, and commissioned him in about 1800 to investigate the use of steam drive for canal vessels. At this time, the only engine Symington could put forward was of the type used in the Dalswinton trials (pictured in Fig. 7), in which reciprocating motion was converted to rotary motion by means of a system of chains and ratchets. This first trial, in a vessel believed to have been named the *Charlotte Dundas,* was unsuccessful, but for a second attempt, in a new vessel with the same name, Symington introduced a steam engine of a radically different design. In the explanatory notes for his patent application No. 2544 of October 1801, this would produce '... rotatory motion without the interposition of lever or beams'.

The change in working principle in Symington's new engine is apparent from the drawing submitted with his patent application, which is reproduced in Fig. 8. It can be seen that the thrust of the piston in the engine is transmitted via a cross-head slide directly to a crank. As the lower illustration in Fig. 8 shows, the drive is coupled to a single paddle wheel mounted at the stern. The performance of this new engine evidently

lived up to Symington's expectations. In a trial in January 1803, this vessel demonstrated the capability of the new engine by towing two 70-tonne sloops over a distance of nineteen miles in six hours (27). That demonstration is generally, and quite justifiably, regarded as the true starting point of practical steam navigation.

Outside Britain, other innovators had also been working with similar combinations of steam engine and paddle wheel. In France, the Marquis de Jouffroy d'Abbans (1751-1832) demonstrated steam-powered paddle-wheel boats on the River Saone as early as 1783 (28). There is no doubt that he was a leading pioneer of steam navigation, but his exile after the French Revolution of 1789 forced him out of effective further experimentation. Meanwhile another innovator who rapidly went ahead to put steamboat design principles into practice (after noting Jouffroy's experiments and, it is believed, visiting Scotland to study Symington's vessel) was the American Robert Fulton.

Fulton (1765-1815) was a talented all-rounder, who turned to mechanical engineering after his early years as a painter of miniatures and landscapes (29). Between 1786 and 1803 he was in England, where his innovative work included the design of inclined-plane systems for canal transport. After moving to France, he experimented with steam-driven river craft. On his return to America in 1806, Fulton used the experience he had gained in Europe to design and construct more steam-powered vessels, and by 1807 had built a successful passenger-carrying paddle-wheel steamboat, named the *Clermont,* and was operating this on the river Hudson. The success of Fulton's *Clermont* established, for all practical purposes, his position as the first man to succeed in building a fully operational passenger-carrying steamboat and putting it into regular commercial service.

In Scotland, Symington's hopes for the profitable exploitation of his achievement with the *Charlotte Dundas* were short lived. The owners of the Forth and Clyde canal

were not convinced by the vessel's performance, and (more significantly for the long term) also concluded that there was too much risk that the wash from steamboat paddles would damage canal banks (30). To frustrate Symington's expectations further, the support that he was counting on from the Duke of Bridgewater (1736-1803), the leading canal enthusiast, came to an end on the Duke's death. With no prospect of financial support, Symington abandoned his work on steam propulsion, and for the time being there appeared to be no future for the steamboat on Britain's canals. However, the concept had aroused the interest of another Scotsman, who saw a different role for this new technology, not in industrial transport, but for carrying passengers.

The man with this novel steam-navigation purpose in mind was Henry Bell (1767-1830), the fifth son of a West Lothian millwright. In 1810, Bell was running a small hotel and bathing establishment that he had built at Helensburgh, on the estuary of the river Clyde (31). The patrons he needed to attract were wealthy Glaswegians in pursuit of health and leisure. He was convinced that a steam-powered boat would give him a much improved means of bringing these down the Clyde from Glasgow, and that he could design such a vessel and have it built to suit his needs.

Bell started with an orthodox sea-worthy hull, and installed in this the steam engine and associated machinery necessary to make a paddlewheel steamboat. He kept the general form of a sailing yacht, so the vessel could proceed under sail if necessary, and used the mast as a smokestack to carry off fumes from the coal-fired boiler. A simplified outline of the vessel's basic design, derived from a reproduction of the shipyard's plans, is shown in Fig. 9. The engine room, boiler and furnace were located amidships, between a small forward passenger space (described by Bell as a cabin but designated as the forecastle in the shipyard plans), and a larger 'best' cabin in the aft part of the boat, which was furnished with lockers, beds, table and seating.

The engine that Bell acquired for his innovative vessel was one of Boulton and Watt design, built in the Clydeside works of the engineer John Robertson, and its application in Bell's vessel marks a significant point in the evolutionary development of the steam engine. The type of industrial engine most generally in use at this time was as the example shown in Fig. 5, with the characteristic vertical double-acting cylinder, and the massive pivoted overhead beam, much as in the Newcomen original. Such machines were still enormously large for their power output; the drawing in Fig. 5 showed that a machine to generate 10 h.p. would stand at least 20 ft (6m) high. For many purposes this height would have been a significant handicap, and at about the turn of the century a fundamental design change was introduced. The new Boulton and Watt engine still operated on the same basic principles, retaining the vertical cylinder, but now the drive was transmitted from piston to flywheel down to the base of the machine, via connecting rods and a newly devised bell crank linkage, making an altogether more compact unit. How this worked is shown in Fig. 10, which also shows the engineering drawing of a typical Boulton and Watt engine of this type. This was the kind of engine that Henry Bell obtained for his *Comet*. Although much more compact than the old overhead-beam type, it was still large for its power output; from engineering drawings, and from the remains of Bell's engine preserved in the Science Museum in London, it appears that a unit nominally generating 4 h.p. would have stood about 10ft (3m) high. To show this in relation to the size of the *Comet*, the vessel's hull and engine are outlined together in the small illustration at the foot of Fig. 9.

Bell's choice of prime mover for his innovative vessel raises an important question about this phase in the development of steamboat technology. When the engine of this type is compared with that built by Symington for his successful second *Charlotte Dundas*, it is clear that there is a case for looking more closely into the specifying of steam engines for navigation at that time. Although the bell-crank linkage enabled a more compact unit to be made than was possible with the earlier overhead-beam type of

steam engine, by comparison the Symington engine appears as a considerably more elegant design, offering (at least seen at this distance in time) a more efficient solution than the rather contrived Watt engine. In saying this, it is necessary to make the point that the view taken today with the benefit of hindsight is likely to be different from that experienced by the innovators experimenting in 1800. The progress made by Watt and others can easily appear, now, to have been moving steam navigation design towards a 'best' solution of the kind that eventually powered the steamships of the 1850s and beyond. But in the 1790s, it is unlikely that anyone could have said with certainty that competing designs (for example James Rumsey's underwater jet propulsion system) were going to be less worthy of investment than the combination of steam engine and paddle wheel. Nevertheless in the case of the choice of engine, an obvious question does arise. Since Symington had shown the effective performance of his engine, working 'without interposition of lever or beams', in a demonstration some three years before Fulton completed his first craft (which also had a Boulton and Watt engine of the same type as Bell's), and eight years or so before Bell purchased his engine for the *Comet,* why had his type of engine apparently not even been considered for further development?

It is reasonable to suggest that commercial considerations, associated with an early instance of a rigorously applied marketing policy, were largely influencing the direction of development. Because of the strength of the Boulton and Watt name, there is little doubt that Bell would naturally have turned to this established maker for his motive power, and possibly would have found it difficult to seek out alternatives. However, examination now of this stage in the development of steam navigation raises questions about such specifying decisions, and about the effect of changes in production and selling methods then coming into play to influence the user. The importance for this study is in what it reveals about the relationship between technological change and commercial pressures.

Symington's design for his first (unsuccessful) paddle-wheel engine (see Fig. 7), a complex arrangement of chains and ratchets, was almost certainly devised in order to bypass two sets of patents - Pickard's registration of the crank, and Watt's earlier all-embracing steam engine patents, for which he had obtained extensions in 1775 (32). These all expired around 1800; Symington would then have been free to use the crank, and so could put forward his compact design with its simple horizontal arrangement of cylinder, piston and connecting rod. This was probably too late to make an effective challenge to the Watt engine.

Boulton and Watt were determined and vigorous in defending their legal position over patents, and strove to exercise control over the developing market by refusing to grant licences for Watt's separate condenser (33), even though the demand for industrial engines was beyond the capacity of their one company to supply (34).

Aside from their actions to defend patent rights, Boulton and Watt's powerful position in the market came also from their prominence as suppliers, and the strength of their position in having an established selling organisation. The Watt engine came from a source that had acquired countrywide credentials. When engines were required for the first generation of steamboats, shipwrights would not only have confidence in the Boulton and Watt name, but would also benefit from assembly and installation advice from the Soho manufactory in Birmingham (35).

There is no doubt that William Symington had pointed the way to a conceivably better steam engine, or certainly an alternative worth considering, as far back as 1803. Yet the Watt engine prevailed, while Symington's was largely forgotten, and Symington died in disappointed obscurity in 1831 (36). The direction taken in further steam engine development in Britain continued to be influenced, at least in the short term, by the marketing strength of the Boulton and Watt company.

The Watt engine of the early 1800s worked at little above atmospheric pressure. Other engineers besides Symington were arguing that a more promising way ahead was with directly operating engines using steam expansively at higher pressures. In the first two decades of the nineteenth century, the steam engine market in Britain continued to be dominated by the commercial success of low-pressure machines of Watt design. One of the most active competitors, and a determined advocate of the high-pressure steam engine, was Richard Trevithick (1771-1833), the Cornish mine-engine erector who was ultimately most famous for his pioneering steam locomotives (37). While the Boulton and Watt company was persisting with the low-pressure design, Trevithick was building high-pressure engines of an altogether more compact form, many of them as replacements for horse-driven pumps at Cornish mines.

James Watt maintained, all his life, a firm opposition to the use of high-pressure steam (38). At the time, this determined view was by no means without merit. He was aware that the materials and manufacturing techniques then available limited the integrity of steam boilers, and he was rightly concerned about the explosive potential of high-pressure steam. Ultimately engineering design and manufacture advanced to enable high-pressure steam engines to take over from Watt's low-pressure machines, but for the time being these remained the prevailing type in Britain.

The real consideration in this study, however, is not so much the virtues of different engine designs, but the fact that, in Matthew Boulton's vision of how to sell successfully in the industrial context, it is possible to see an early instance of a comprehensive marketing policy. Boulton, the commercial driving force behind the rise of the Watt engine, was not alone in appreciating the importance of the market to the manufacturer. The potter Josiah Wedgwood (1730-95) was a similar industrial pioneer who created production economies by promoting his wares to a socially widening range of consumers (39). Richard Arkwright (1732-92) had also shown, in creating his cotton-

spinning empire, that the road to riches was more likely to be found in large-scale production than invention alone (40). In the case of the Watt steam engine, domination of the market appears to have been achieved not only by scale of production, but also by establishing a leading relationship with the customer.

In his *Comet* paddle steamer, Henry Bell had produced a prototype that established the basic design of passenger-carrying steamers in Britain for years to come. In 1825, the layout of accommodation in the typical passenger steamboat operating in Britain was still much as that shown in Fig. 11. In the following chapters of this study, which discuss the operation of early steamboat passenger services in Britain, it will be shown how extensively the development and application of this new technology were influenced by popular demand. The engineering design, style of vessel and accommodation arrangements of steamboats in Britain for two decades or more after Bell launched his *Comet* were virtually all directed towards satisfying a leisure-seeking market, typified in its early days by the passengers visible in the painting by the artist Daniell, showing a steamboat on the Firth of Clyde in 1813, reproduced in Fig. 12. The demand from the consumer was very largely determining the form of the technology. But conversely, the form of the technological development itself went on to exert an influence on the pattern of social behaviour, firstly of one select sector of society, and later more widely. This it did by providing a means for indulging in enjoyable activities previously out of reach. Henry Bell designed his vessel to suit a leisure pursuit that was, in his day, available only to a particular social sector, but his design set a pattern that was to be conducive to the further growth and wider social spread of that same leisure activity. The social context of that expansion, and the socio-economic conditions that made it possible, are discussed in the next chapter.

1.

Notes and references.

1. References to paddle-wheel propulsion in ancient Rome are based on proposals in the anonymous *De Rebus Bellicis* of about 350 AD. A modern translation and appraisal is by E. A Thompson (1952), *A Roman Reformer and Inventor, being a new text of the Treatise De Rebus Bellicis,* Oxford, Oxford University Press, p. 50.
Other early paddle-wheel propulsion ideas are discussed in:
D. Cardwell (1994), *The Fontana History of Technology,* London, Harper Collins, pp. 116-121.
C. Singer, E. J. Holmyard, A. R. Hall and T. I. Williams (eds) (1958), *A History of Technology,* Oxford, Oxford University Press, vol. IV, pp. 188-90.
B. Woodcroft (1848), *A Sketch of the Origin and Progress of Steam Navigation,* London, Taylor and Walton, p. 1.
H. P. Spratt (1958), *The Birth of the Steamboat,* London, Charles Griffin, pp. 17-22.

2. The parts of the story of Watt's life and work used in this study have been taken from information in the following:
H. W. Dickinson and R. Jenkins (1927), *James Watt and the Steam Engine,* Ashborne, Moorland Publishing Ltd.
H. W. Dickinson (1935), *James Watt, Craftsman and Engineer,* Cambridge, Babcock and Wilcox / Cambridge University Press.
B. Marsden (2002), *Watt's Perfect Engine,* Cambridge, Icon Books Ltd.
L .T. C. Rolt (1962), *James Watt,* London, B. T. Batsford Ltd.

3. Matthew Boulton (1728-1809) was the son of a silver stamper, and inherited his father's business in 1759. After establishing his partnership with James Watt in 1775, Boulton devoted all his energies and capital to the development and commercial exploitation of Watt's steam engine. His innovative approach to management, production and marketing is described in E. Roll (1930), *An Early Experiment in Industrial Organisation, being a History of the Firm of Boulton and Watt, 1775-1805,* London, Longmans Green and Co.

4. Dickinson, op. cit., p. 124.

5. Dickinson and Jenkins, op. cit., p. 57.

6. C. A. Russell, 'The Reception of Newtonianism in Europe' in D. Goodman and C. A. Russell (1991), *The Rise of Scientific Europe 1500-1800,* London, H. Stoughton / The Open University, p. 259.

7. J. Uglow (2002), *The Lunar Men,* London, Faber and Faber, *passim.*
Dickinson, op. cit., pp. 119-20.

8. B. Lavery (1987), *The Arming and Fitting of English Ships of War,* London, Conway Press, p. 7.

9. Ibid., pp. 80-1

10. Ibid., p. 34.

11. J. Farey (1827), *A Treatise on the Steam Engine,* London, Longman, Rees, Orme, Brown and Green, pp. 126-55.

12. Ibid., pp. 99-109.
Thomas Savery, inventor of an atmospheric-pressure system, is credited with playing a large part in the Newcomen engine. However, the Swedish engineer Marten Triewald claimed '... Newcomen had no knowledge of the ideas of Captain Savery, but independently set out ... to invent a fire engine for pumping water'. This is quoted in L. T. C. Rolt and J. S. Allen (1997), *The Steam Engine of Thomas Newcomen,* Ashborne, Landmark Publishing, pp. 38-9.

13. Farey, op. cit., pp. 93-9.
Denis Papin (1647-1712), a French physicist who worked in England, was the inventor of a steam-powered pump, almost certainly a source of ideas for Newcomen's engine.

14. Dickinson, op. cit., p. 95.
The engineer John Smeaton (1724-94), builder of Ramsgate harbour and the Eddystone lighthouse of 1759, introduced analytical methods in the design of steam engines.

15. Ibid., p. 51.
In his application for the patent on his separate condenser, Watt apparently left himself open to future trouble by patenting a principle of action, and not the application of a principle. It was on the strength of this patent that Boulton and Watt sued for alleged infringements. John Farey, an expert in patent law, said: 'According to the ordinary practice of the Courts of Law..., Mr Watt's patent ought to have been annulled, for insufficiency of the specification, which is a series of definitions of principles of action, without any description of the means of carrying them into effect. And it is certain that if ... the merit of the Watt engine had not been so universally allowed at the time ... his right could not have been established as a mere question of law ...' Farey's assertion is quoted in Dickinson and Jenkins , op. cit., pp. 326-7.

16. Dickinson, op. cit., pp. 105-6.

17. Farey, op. cit., p. 409.

18. Dickinson, op. cit., pp. 127-8.

19. H. P. Spratt (1958), *The Birth of the Steamboat,* London, Charles Griffin, p. 26.

20. A claim that passenger-carrying journeys on the Delaware River were made by John Fitch's oar-driven vessel in 1788, well before Fulton's *Clermont* operations, was advanced in 1812 by the National Navy League of the United States in:
John Fitch, The First in the World's History to Invent and Apply Steam Propulsion of Vessels Through Water, Washington, US Navy League, p. 8.
The case for John Fitch as the originator of steam navigation is also put in T. Boyd (1935), *Poor John Fitch,* New York, G. P. Putnam's Sons.

21. C. O. Philip (1985), *Robert Fulton, A Biography,* New York, Franklin Watts, pp. 11-12.
Fulton's work on canals and naval weapons, and his divergence to steam navigation in about 1790, are detailed in the biography by T. W. Knox (1886), *The Life of Robert Fulton, and a History of Steam Navigation,* New York, G. P. Putnam's Sons, pp. 29-33 and 72.

22. J. J. Sheahan (1866), *History of the Town and Port of Kingston-upon-Hull,* Beverley, John Green, p. 368, and Spratt, op. cit., p. 26.

23. B. Lavery, op. cit., pp. 104-5.
In addition to paddle-wheel propulsion, Miller was involved in promoting the carronade, product of the Carron Iron Company, which replaced the British Navy's traditional long gun at the end of the eighteenth century.

24. W. S Harvey and G. Downs-Rose (1980), *William Symington. Inventor and Engine Builder*, London, Northgate Publishing, p. 96.

25. Ibid., p. 47.

26. J. Boughey (1998), *Hadfield's British Canals*, Stroud, Sutton Publishing, *passim.*

27. Harvey and Downs-Rose, op. cit., p. 1.

28. J.-C. A. Prost (1890), *Le Marquis de Jouffroy d'Abbans. Inventeur de l'Application de la Vapeur a la Navigation*, Paris, Ernest Leroux, pp. 127, 129, 132.

29. Philip, op. cit., *passim.*

30. Harvey and Downs-Rose, op. cit., p. 120.
The possibility of damage to canal banks was a serious cause for concern, since loss of water was expensive for canal owners and users.

31. The story of the life and accomplishments of Henry Bell is comprehensively presented in B. D. Osborne (2001), *The Ingenious Mr Bell*, Glendaruel, Argyll Publishing.

32. Marsden, op. cit., p. 143.
A petition for a twenty-five year extension was presented to Parliament by Watt on 23 February 1775, and received the Royal Assent on 22 May.

33. Dickinson, op. cit., p. 174.

34. Ibid., p. 174.

35. Dickinson and Jenkins, op. cit., p. 345.

36. Osborne, op. cit., p. 78.

37. H. W. Dickinson and A. Titley (1934), *Richard Trevithick, the Engineer and the Man*, Cambridge, Cambridge University Press, pp. 21-23.

38. Rolt, op. cit., pp. 26-7.
Rolt suggests that 'Watt's excessive caution and sheer stubbornness led him to sustain his objections to high-pressure steam long after they had been invalidated by technical progress'.

39. R. Reilly (1992), *Josiah Wedgwood, 1730-95*, London, Macmillan.
This biographer discusses Wedgwood's role in the development of the consumer society, being one of the first to introduce showrooms and display, travelling salesmen and advertising.

40. R. S. Fitton (1989), *The Arkwrights, Spinners of Fortune*, Manchester, Manchester University Press. p. 1.

2.

The societal context.

The foregoing short history of early paddle steamer technology made two concluding points: firstly that the requirements of the consumer largely dictated the form of the new technology when it first went into commercial service, and secondly that the introduction of the technology itself was influential on social behaviour. The first concept can be seen in the way that Henry Bell adapted the new technology to suit the special requirements of his hotel clients. The second can be seen in the widening of a social activity on the part of the consumer, who soon moved to take advantage of the extended facility for leisure travel made possible by the new technology.

Interactions of this kind are inevitably dependent on the nature of society itself. Would the introduction and early development of commercial steam navigation have taken the form they did in a country without the particular characteristics then found in the societies of England and Scotland? The path followed in the introduction and expansion of passenger-carrying steamboat operations in Britain was undoubtedly related to the nature and behaviour of contemporary society. This chapter therefore sets out to present a picture of those aspects of British (1) society that had most relevance to these technological changes.

The period examined covers the last quarter of the eighteenth century, when expanding industrial needs were inspiring efforts to put the new power of steam to work, and continues to the middle of the nineteenth century, by which time railways were becoming established throughout most of Britain. During that time, the country moved from the largely rustic, quintessentially Georgian world of 1780, to the industrializing and rapidly urbanizing Victorian Britain of 1850 (2).

On its arrival, the steamboat offered wealthy people, those in the upper echelons of society, a new and altogether more comfortable and attractive facility for leisure travel. Expansion of steamboat operations to serve a wider social cross-section soon followed, and by the eighteen-twenties many thousands of people, mostly in the vicinity of London and Glasgow, were able to enjoy leisure travel in a way that would have been inconceivable a generation before. New technology alone would not have brought about this change; suitable socio-economic conditions also had to be present. When passenger-carrying steamer services grew to encompass a wider class range than simply the upper ranks of the wealthy, they depended not only on the availability of a new facility, but also on the existence of a thriving and sufficiently large market.

What was it about British society that made this receptive response possible? To create and build what was to be in effect a new leisure business, there had to be not only a certain amount of spending power across a wide enough social range, but also a widespread conviction that enjoyment of leisure was a desirable, and even necessary, part of life. Somehow or other, great numbers of people, including many from the lower ranks, did find the means to have a day out (or more) by steamboat and, significantly, demonstrated how determined they were to enjoy leisure whenever they could. The extent to which the technology of the passenger-carrying steamboat brought new scope for this exercise of the leisure-preference characteristic is explored in this and following chapters. In order to establish the societal context, the chapter begins with a review of the later years of the eighteenth century, before passenger-carrying steam navigation became a commercial reality.

The late eighteenth century in Britain brought unprecedented politico-economic change, and accelerating disruption to lifestyle and employment, for a population that remained locked in a social pattern of extreme class differentiation. Among the upper and middle classes, leisure interests were developing in scope and form, and undergoing

social widening. The extension of new trends in pictorial art to a wider public brought a new interest in travel to the countryside. These and other changes of behaviour had a bearing on commercial enterprise. Overall, findings in this study show how powerfully the social needs, cultural aspirations and even the most frivolous of human desires can influence the introduction and deployment of new technology.

In the years of the Georges (1714-1830), and especially after 1750, Britain experienced unparalleled socio-economic growth; the population and the economy expanded enormously and, for some people, living standards rose, confuting the Malthusian principle that an increasing population must outstrip the means to support it. Internationally, the country grew vastly in stature. The breaking of French power in the Seven Years War (1756-63) appeared at the time to be of much greater consequence than the loss of transatlantic colonies in the American War of Independence of 1775-83 (3). That reverse, though a blow to British self-esteem, seemed to be soon forgotten as military successes and consequential trading advantages were gained elsewhere, and especially in the East. The riches of India, brought under British imperialistic control by the private enterprise of the East India Company, added to Britain's seemingly unassailable material superiority (4).

Internally, the country's economic growth from Georgian to mid-Victorian times was immense. The figures for cotton production, which led the industrial take-off, are enough to show the scale: whereas cotton imports were running at an annual average of just over a million pounds weight [500,000 kg] a year in 1700-1705, they were at fifty-six million pounds [28m kg] in 1800 (5). Returns from overseas trade, increasingly based on industrialized manufacturing, rose dramatically: the value of cotton goods exported went from £1,892,329 in 1792 to £37,269,432 in 1829 (6).

In commerce overseas, British entrepreneurs not only enjoyed having freedom to run their own affairs, but also could count on having the backing of military power to widen their opportunities and strengthen their bargaining arm. Businessmen expected protection and, as the historian Patrick O'Brien put it, 'intensified pressures on their rulers to use diplomacy, and armed force, whenever necessary, to extend opportunities for British enterprise overseas.' (7). The resulting position of dominance in the world created a sense of effortless and complacent superiority in the Briton abroad (8). At home, this was reflected in pugnacious assertions of patriotism, even on the part of the lower orders, who gained little or nothing from the country's inflated place in the world. As the poet Robert Southey wrote : 'The common people, not to be behind hand with their betters in absurdities, boast as heartily of the roast beef of Old England, as if they were not obliged to be content ... with bread and potatoes.' (9).

Prosperity in commerce was closely associated with the wholehearted embrace of the principles of unrestrained entrepreneurial freedom. Modern historians see this as the most significant reason why the first industrial revolution arose in Britain, and not in other countries with comparable material resources. Central government control of enterprise in Britain passed from the monarchy in the seventeenth century, according to H. Perkin, giving way to 'the domination of government and society by a landed aristocracy jealous of the Crown and with a stake in economic growth.' (10). T.S. Ashton saw a greater inevitability in Britain's reduction of central control of commerce: '... the use of wider markets, more elaborate techniques, and more specialized types of labour must have made ... detailed supervision difficult indeed. Even if there had been no Civil War, ... and no rise of new classes to political power, central direction must have broken down. For more than hundred years before the industrial revolution, the State was in retreat from the economic field.' (11).

In other countries, such freedom to trade and to exploit innovative developments for private profit was largely absent. In France, for example, ' governments ... displayed interest in industrial inventions, [but] in practice the dead hand of State regulation [was] inimical to fundamental industrial change.' (12). At home, new industry and innovative commerce not only operated largely without restriction, but also worked in a legislative climate favouring commercial needs over social misgivings. Instances of this ethos in action became strikingly evident in the heyday of steamboat services in the 1830s and 40s, notably in the highly competitive operations on the Thames described in chapter 5.

One of the strongest social influences associated with economic change during the eighteenth century was the increase in numbers and wealth of the middle ranks of English society, who arguably furnished much of the commercial energy for economic growth. What is most important for this study is that middle-ranking enterprise and spending power drove passenger-carrying steamboat business during its most significant period of expansion. Middle-range merchants put their money into steamboat shares. Middle-ranking families were at the heart of the market for steamboat services.

In the first quarter of the nineteenth century, the years of the introduction and early growth of passenger-carrying steamboats in Britain, possibly as many as 30 percent of families in England were of the 'middling sort', ranging from merchants and higher professionals to small shopkeepers and the best-paid skilled artisans. The financial expansion of this part of society over the eighteenth century can be visualized from the frequently-quoted surveys of incomes that were drawn up by the social commentators Gregory King in 1688, Joseph Massie in 1759, and Patrick Colquhoun in 1801-3 (13). For this study, the income figures of greatest interest are those of middle-ranking occupations, and a simplified extract from the surveys, showing the change in these over the second half of the eighteenth century, is set out in Fig. 13.

A first point of interest indicating social change is the appearance of the new category of clerks and shopmen at the beginning of the nineteenth century, but the financial change that stands out most strikingly is the advance of the merchant. Not only was the income rise of the merchant quite spectacular, but also it can be argued that his business activity would have been immensely important in helping to energise the country's economy. For the purposes of this study, the significance of the merchant lay in his capacity to put money into new ventures. After the first two decades of the nineteenth century, the coming of steam navigation presented investment opportunities for merchants, and examples show that they were well placed to profit from steamboat ownership (14).

The socio-economic change of greatest ultimate significance, and one becoming increasingly evident in the last quarter of the eighteenth century, was of course industrialization. The development of the factory-scale production of cotton yarn, the vanguard of the coming revolution in manufacturing, was becoming well established by 1790. Not the least of the resulting social changes was a new collectivization of employment, totally different from the individualism of traditional manufacture.

The world's first factory-sized cotton spinning mill was built by Richard Arkwright (1732-92) at Cromford in Derbyshire in 1771 (15). One view of the impact of this innovation on the rural way of life can be seen in the observations of a contemporary traveller, Colonel John Byng (1743-1813) (16). After visiting Arkwright's mill, and noting the number of new factory-style cotton mills being built in Lancashire, Byng recorded his concerns for the lives of working people: 'The simple peasant is changed into the impudent mechanic', he declared (17). He also believed that the migration of men into industry would have adverse effects on domestic agriculture. In fact, agricultural production did not appear to suffer as much as Byng feared. Although the price of bread varied enormously with the changing fortunes of the grain harvest (see Fig. 14), England

was then beginning to reap the benefits of a long period of farming improvement and growth (18). By the time of Byng's travels in the last years of the eighteenth century, domestic agriculture appears to have become productive enough to support a rapidly expanding population.

From Byng's observations about the countryside, it is apparent that he believed coming changes were a threat to a rural way of life that he saw as desirably benign. As a well-to-do aristocrat, he probably had little idea of real life in the world of his 'simple peasant'. A peasantry of the traditional Continental-European kind had in fact long ago faded out in England, bringing change that was arguably beneficial to the country's economy. Scotland, by contrast, was one part of Britain that did have a more feudal, peasant-style tradition of land holding (19). The retention of this outdated, small-unit agrarian economy, especially in the Highlands, frustrated most attempts to introduce the kind of agricultural improvement that began to transform farming in England. It will be contended (in chapter 3 in particular) that the contrast that developed between the primitive state of the Scottish Highlands, and the rise of relative affluence in the Scottish Lowlands, created a divide that was to play a uniquely significant part in the launch and initially rapid expansion of passenger travel by steamboat.

Aside from any effects on agriculture, one of the most important consequences of recruitment for the new industrial mills was the reduction and ultimately the demise of the ages-old cottage-based contracting-out and piece-work manufacturing system. The change was to have important implications for leisure. Out-workers, small family-sized entrepreneurial producers, had been accustomed to a flexible working pattern. When these individual textile producers had to move into the factory, they resented the loss of their customary 'rights' - in particular their time off on 'St Monday', and their summer breaks for the Wakes Weeks observed in northern communities (20). For many in the pre-industrial world, once necessities had been provided for, finding time for relaxation,

sport or just larking about was seen as a time-honoured right. The leisure preference evident in this customary behaviour has a special significance. The apparent ability of appreciable numbers of the working population to make leisure trips by steamboat is a key element in the debate about the social widening of the steamboat's market.

In the comments that Colonel Byng made about conditions in England in the 1790s, he not only deplored the arrival of the factory in the countryside, but also expressed himself forcefully about the extravagance, as he saw it, of trade. His views are another indication of the growing place in the economy then being taken by the merchant:

> Why, the very vitals of the country are drain'd to import these *most valuable* commodities, rum and sugar from the West Indies, china and nankeens from the East, hemp from Sweden, deals from Norway, oil from the Northern and Southern Poles, furs from North America, tobacco from Virginia, and turtles from the Bahama Islands. How could we not go on very happily without these ridiculous luxuries, or raise the useful ones at home? ... Go on, my deluded country, and strain away in trade; enclose; depopulate; build towns; pull down villages; and deal away so ... that ye all become swindlers or bankrupts! Who but a merchant could live in such a hole, where the slave working and drinking a short life out is eternally reeling before you in fatigue or drunkenness? (21).

Consumption of Byng's 'ridiculous luxuries' was in fact a sign of the country's immensely advantageous overseas trade, and of a greatly growing spending power. There is no doubt that the middle class family was then enjoying a substantial measure of affluence, and it is generally accepted that the first of the world's consumer societies was in existence in Britain by 1800 (22). It is reasonable to believe that a certain amount of leisure travel would be included in that society's spending. There were indications too that the skilled artisan was beginning to be able to buy goods that made the home more comfortable. However, evidence of any comparable improvement for people at the lowest levels, the 'working poor', is hard to find. For most of those, wages remained unimproved

until the last few years of the eighteenth century, as can be seen from the figures of workmen's earnings in the south of the country shown graphically in Fig. 15. Broadly summing up domestic consumption in England (though probably not Scotland) around the end of the eighteenth century, it can be said that (a) the home of a middle-class family increasingly showed signs of the wherewithal to acquire luxuries; (b) the regularly-employed skilled artisan was increasingly able to buy items beyond the level of sheer necessity; but (c) for the great majority of the working population, wages remained at a minimal level that allowed for little more than keeping body and soul together. The important question for this study is how these assumptions translate into a capacity to afford steamboat travel, when that became available in the early nineteenth century.

For skilled operatives in the new textile manufactories springing up in the north of England and the Scottish Lowlands, wage levels advanced substantially. Industrial working rules were harsh and unforgiving, the hours long, the conditions uncongenial, and security of employment minimal. But employers could claim that skilled men in the new textile factories were then able to earn enough for a life style that, by the standards of the day, could be regarded as fairly comfortable. Edward Baines, author of a comprehensive survey of the cotton industry published in 1835, wrote:

> The 237,000 working people employed in cotton mills in Great Britain are in receipt of wages amply sufficient to yield them not merely the necessities of life in food, clothing and habitation, but also many comforts and some superfluities ... Though improvidence too often ruins the happiness of families, there are thousands of spinners who eat meat every day, wear broadcloth on Sunday, dress wives well, furnish [their] houses with mahogany and carpets, subscribe to publications, and pass through life with much (humble) respectability (23).

Wage tables support Baines's assertions, but the survey bears the hallmarks of industry sponsorship. His 'thousands' of spinners living as well as he described is

probably an exaggeration, and his review almost certainly puts a selective view of the mill worker's lot. A reasonable level of family income often depended on children working in the mill alongside their fathers.

In the very different employment circumstances of London, it is difficult to visualize any below the income level of the established craftsman having a life style like that of Baines's cotton spinner. Nevertheless well before the days of the steamboat, the ability of the London working man to spend on leisure was apparently in some evidence. In 1782, Carl Philip Moritz, a German teacher visiting England, observed the manners of people at leisure, and on going to Ranelagh Gardens, commented that '... none of the lower class go there unless dressed in their best ... [including] wearing silk stockings ... The poorest families make an effort to go there at least once a year, my landlady assures me.' (24).

Moritz's ideas of 'the poorest families' may of course have been wide of the mark. Most of the 'lower class' that Moritz saw going to Ranelagh were probably more clerk, artisan or servant than labourer. Nevertheless his account is typical in suggesting that entertainments such as the theatre in London were within the reach of some of the lower earners. In this it may be possible to see indications about the kind of people from the working levels of society who, two or three decades later, were able to find the money for an occasional outing by steamboat.

For those in the highest ranks of society, leisure pursuits were increasingly formalized. The social calendar revolved around that of the ruling peers; when Parliament went into recess each summer, the nobility moved to their mansions in the shires. Many of the upper classes, and some of the higher 'middling sort', found a summer-time equivalent in a stay at the spa or the seaside watering-place. This new fashion for spending summer at the seaside, and the related development of a market for steamboat services, are treated more fully in later chapters. However, the stylish tone of

high society's leisure at the fashionable seaside resort can be sensed from a letter penned by the well-connected Sir George Jackson, who wrote from Brighton:

> How, (my dear mother) I spent my time: up at seven, rambling all day by the sea, in bed by ten (well, not quite that ... danced at one place, *soiree musicale* at another, and so forth). Twice I dined with Mrs Fitzherbert ... Twice or thrice to her afternoon *petites causeries* ... ; you get a cup of tea and the scandal of the day. If you can add a *piquant* anecdote, you will be so much more welcome. (25).

The seaside resort increasingly overtook the spa as the preferred summer-time attraction for the aristocracy and the aspiring rich.

Ultimately much of the market for paddle-steamer passenger services was to be built on this remarkable phenomenon, the desire to spend leisure time at the seaside. Viewed objectively, the logic of this behavioural urge is not very obvious. Almost everyone who could afford it went to the seaside, even if getting there was sometimes more of an ordeal than a pleasure. The motivation for this type of leisure activity, its relationship with the development of steamboat technology, and the rise of the seaside resort, are discussed further in chapter 6.

Another impulse that added to the market for travel was the discovery of the aesthetic appeal of the countryside. In the guidebooks that proliferated as inland tourism became an important part of middle-class leisure, one word – *picturesque* - appears again and again. Typical guidebook phrases might include ' A district full of interesting ruins ... rich in the picturesque'. 'Ruins, valleys, hills and riversides ... rich in picturesque beauty ...'. And '... little ornamental detail, but its picturesque outline would attract attention anywhere.' (26). Before the eighteenth century, the picturesque was meaningless, and it was not until the seventeenth century that the landscape itself was

seen by most European painters as a *genre* in the art world, in its own right (27). Typically, enquiring middle-class English art amateurs, principally rural clergymen and landed gentry with a taste for the arts, took the lead in looking for the picturesque. The fervour with which some sought the picturesque was enough to provoke satirical comment, as by the poet Robert Southey in his 'Letters from England', and in the comic travels of William Combe's fictional Doctor Syntax (28), Fig. 16.

Even more emotionally stirring for some was sublimity in art, another aesthetic concept that influenced the market for steamboat tourism. This abstraction came into prominence when Edmund Burke asserted that 'A sense of sublimity is induced by [things with] properties that seem repellent, such as excessive size, darkness or infinite extension.' (29). For the tourist, what this amounted to was the excitement of viewing wild scenes that aroused feelings of awe, and even of terror. Mountain vistas in the more remote regions of the British Isles took on a new popularity, and with the stormy seascape became an increasingly popular subject for illustration.

The Scottish Highlands provided excellent opportunities to experience sublimity in nature, encouraging the wealthy to set off on tours of Scotland. The painting *Landscape with Tourists at Loch Katrine* by the Scottish artist John Knox (1778-1845) recorded this new passion for sight-seeing in the Highlands (Fig. 17). As the National Gallery of Scotland's caption for the painting, when it was on show in London, said: 'Knox was ... captivated by Sir Walter Scott's poem *The Lady of the Lake* ... The enchantment ... encompassed much of the rest of the Highlands, opening up "the land of mountain and flood" to international mass tourism.' (30).

Access to the less dramatic picturesque scene, by comparison, could be secured without travelling very far. This is demonstrated by the proliferation of gentle landscape painting in the late eighteenth century, the style of which was exemplified by Richard

Wilson's *View on the Thames near Twickenham,* c.1762 (Fig. 18). Before Wilson's time, that stretch of the Thames would have been seen as nothing more than ordinary countryside. But when Londoners later went for a day out by steamboat, many would have been educated by artists into finding aesthetic pleasure in the picturesque qualities of the scenery.

A further change in aristocratic travel came when war and revolution in Europe checked the tradition of young lords rounding off their education with a Grand Tour to the Continent. Some now turned to inland touring in the British Isles, and led a vogue for journeys to the more remote fringes of England, Wales and Scotland. The historian Linda Colley also sees a further motivation for aristocrats being attracted to remote areas: 'These were expensive to get to, and their less-industrialised people were less likely to be infected with radical ideas, and so more willing, perhaps, to know their place and keep to it. Visiting these places, patrician tourists enjoyed the comforting illusion that they had travelled back in time, to when their world was still safe ... Like the Grand Tour, ... a way of proclaiming who one was ...' (31).

The worlds of leisure travel in pursuit of prestige and aesthetic satisfaction, and for the pleasures of bathing at the seaside, appear at this time to have been remarkably detached from the reality of Britain's overall socio-political climate, with its ever-present gross inequalities and the blight of pauperism. The years after the Napoleonic wars ended at Waterloo in 1815 brought trade depression, poor harvests and a labour market glutted with thousands of men released from the army and navy. Expenditure on the Poor Rate to cope with the great numbers of the destitute was pushed to unsustainable levels (32).

As pauperism rose to an extent that aroused public concern, doubts were even aired publicly about the merits of industrialization. *Blackwoods Magazine* went so far as to

question the ethical position of mechanised employment. The magazine's article *Machinery and the Distress of the Country,* reprinted in the *Chester Courant* of 5 January 1830, asked:

> Why is it that ... new means of producing abundance, and those improvements which wear the appearance of blessings, are fraught with curses to the poor? It is because the processes by which the advantages of industry were obtained have *changed,* and that change has taken away the necessity that did exist, that the labouring classes should have their share of advantages. Possessions can now be turned to profitable account without him ... and he is accordingly left to starve (33).

Contrast between social extremes is evident in the same newspaper. While editorially deploring the enormity of mass poverty (6,000 of the 13,000 population of Frome, for example, were reported to be paupers), the pages of the *Chester Courant* carried advertisements for steam packet services to Rhyl, where there were 'excellent warm sea and vapour baths and bathing machines on a smooth sandy beach', clearly for those who could afford to spend money on leisure (34). The conditions of poverty and extreme social differentiation prevailing in the country at this time drew increasing calls for reform, but from these the poor gained little redress. It was, rather, the men of the middle ranks of the country who were to benefit most from the growing political pressure that led to the first Reform Act of 1832 (35).

The first half of the nineteenth century was a period of developing self-conscious social differentiation, and the increasing consolidation of social classes. One perceptive representation of society's class-based structure appeared in 1847, when *The Illustrated London News* featured the great horse-racing occasion of the year, Derby Day at Epsom (Fig. 19). The magazine shows, in its artist's satirical style, race-goers going to the racecourse by train. In the top picture, the lords, ladies and gentlemen, with a dutiful

groom in attendance, are conspicuously self-assured as they take their seats in first-class coaches. Below them, a cross-section of Dickensian bourgeoisie, mingling with a few rakes and bounders, scramble to board their second-class carriage. At the bottom, disorder reigns in a very mixed crowd fighting to hold on to their hats, and their places, in the rough-and-tumble of an open truck (36).

One of the most important changes in society made since the previous century can be seen symbolised in the centre picture, showing the second-class carriage. From the loosely definable, emerging 'middling sort' of 1790 had grown the new solid centre of society, the bourgoisie, the men of the middle class who were driving Britain's engine of industry, commerce and material progress. It was a class that had strict rules about position and behaviour, and soon generated its own special dedication to the god of respectability.

Railway travel, at first, recognised only two classes of real people – the exclusively aristocratic and wealthy in 'First', and the rather less affluent in 'Second'. The unregarded lower orders, if they were accommodated at all, could be carried in cattle trucks (37). Passenger travel by steamboat had been in existence for years before the railway arrived; how did their operators deal with the same matter?

The customers for the first steamboats to go into commercial service were judged to be mostly from the top people, and steamboat accommodation was arranged accordingly. The only differentiation was between a 'best' and a 'fore' cabin, in a layout (illustrated in chapter 1, Fig. 11) that appears to have been standardised for most early steamboats. Servants and the lower orders, it can be assumed, stayed on deck, making shift as best they could, just as workmen had to do in their cattle trucks attached to goods trains. As more and more passengers were carried on increasingly large boats, there appears to have been more sharing of accommodation. Research discussed later will

suggest that the swelling ranks of the new bourgeoisie would still want to protect their status, afloat or ashore, by keeping the lower orders at arm's length, just as the aristocracy went farther afield to keep ahead of the bourgeoisie.

Nevertheless, anecdotal accounts of leisure activities suggest that there must have been a wider spread of shared leisure-time experience, even if proximity was avoided. As steamboat services grew, steam vessels soon began to carry such great numbers that many from the lower ranges of the social scale must surely have been included. How did they manage to find the means to participate?

Part of the answer can possibly be seen in the rise in working men's incomes which, according to some analyses, appeared to come about after the first quarter of the nineteenth century. Anecdotal evidence tends to support the indication shown in Fig. 15 that, in general, workmen's wages remained unimproved for much of the eighteenth century (38). From the 1820s, however, at the time when leisure travel by steamboat was coming on the scene, there is some evidence, illustrated in Fig. 20, to suggest that the spending power of the working man was beginning to grow. Equally or even more importantly, part of the answer must come from operation of the 'leisure-preference' principle, already mentioned in the context of early industrialization, which came to be noticeably present, in examples showing the determination with which working people strove to get a taste of sea air.

This chapter now turns to the socio-economic organisation of Scotland, which saw both the invention of the technology for steam navigation, and the first commercial operations of passenger-carrying steam vessels in Britain. An important aspect of this period is that Scotland and the Scottish people of the eighteenth century appeared to possess a temperament from which came not only an extraordinary intellectual

flowering, but also an outstanding technological capability that went on to power much of the nineteenth-century rise of British marine engineering.

There was a profound difference between the form into which Scotland's agrarian society had developed over the centuries, and that which was long established in England. Agriculture in England by the late eighteenth century largely depended on a three-level structure, consisting of the landowners, their tenant farmers, and the great mass of landless farm servants and labourers. In Scotland's very different system, the landowning aristocracy (the hereditary chiefs of the clans) leased out their land to tenants (tacksmen), who were dependent on rents from small family holdings. The socio-economic position of these families ('cottars') was similar to that of Continental peasant farmers. Freeholding did not exist, and farming families could be penalised by higher rents if they tried to improve the land (39).

Prospects for improvement in Highland areas shackled by this feudal system were poor, while Lowland areas became increasingly prosperous. The resulting economic divide was to have a crucial influence on the inception and growth of steamboat operations in the early years of the nineteenth century.

For all that the country suffered the handicap of a restrictive agrarian regime, experienced the disruptions of Jacobite rebellions (40), and was divided by differential economic growth, the history of Scotland from the time of Union with England in 1707 gives support to the idea that there was something in Scottish society, and in the Scottish temperament, that was conducive to intellectual enterprise. One remarkable feature of the Scottish nation in the eighteenth century was the emergence of a wave of influential intellectual genius, subsequently defined as the Scottish Enlightenment, which ranged from the economic theorising of Adam Smith and the philosophy of David Hume to the scientific advances of Joseph Black (chemistry) and James Hutton (geology). The

generative source of this intellectual flowering has since remained the subject of debate, the enigma being typically expressed as 'there is no scholarly consensus as to why a small, poor country in north Europe should have made such a disproportionately large contribution to the thought of the age' (41). Factors seen as important include education, the influence of the Church, the strength of Scottish universities, and the support of a forward-looking merchant community. Cultural ambition may also have been associated with a desire to compensate for the loss of national identity that came after the union with England in 1707 (42).

In 1707, all of Scotland was poor, and such small financial resource as it possessed had been shattered by wildly over-optimistic investment in disastrous colonising expeditions in 1698 and 99 to Darien in Central America (43). Recovery was helped by access to England's trading economy, and by the end of the century, the economy of farming in the rural Lowlands was seeing substantial improvement, as feudal cottar holdings were increasingly replaced by larger single tenancies. More significantly, commercial development based on coal and iron was making the Lowland region around Glasgow one of Britain's most active areas for industrial growth. But in the Highland region (44), which was devoid of any comparable opportunity for advance, living for most remained at a primitive level.

After Union with England there were changes for the better, but the benefits for all but the aristocratic lairds were concentrated in the Lowlands. Opportunities opened up for trade, and for more effective use of natural resources. The divide, previously only loosely defined, between the Lowlands and the Highlands, became in effect a social and economic boundary between two societies. By the start of the nineteenth century, the visiting stranger would have been aware of the difference. Louis Simond, an American touring Britain in 1810-11, noted the affluence of the houses in Edinburgh, and the dynamism of industry in Glasgow. When he extended his journey to the Highlands, he

saw a different Scotland. There he was struck, as Samuel Johnson had been forty years earlier (45), by the '... abject poverty [of the people] in their sod-roofed hovels.' (46).

Conditions for the labouring poor in rural England were hardly any better. Families with little to eat, and with no more to shelter them than mud-floored one-room hovels, were probably as common in some parts of England as in the Highlands of Scotland. However, while changing conditions in England brought great distress, there was in those changes some hope for improvement. In Scotland, the plight of the Highland peasant was irreversible. Similarly, England's internal socio-economic change during the eighteenth century had nothing to match the difference that developed in Scotland, between Highland poverty and enforced clearance on the one hand, and the Lowland rise to industrial wealth on the other.

One benefit of union with England was that Scottish trade was free to expand and share in the advantages of Britain's global power. Glasgow, with its outlet to the sea down the Clyde, was in a particularly good position for commerce across the Atlantic, and this was increasingly exploited. Trading in tobacco brought Glasgow's first fortune, and the city's own industries grew as linen, wrought iron, paper, fish and other products were exported. Scotland's first cotton mill was built in 1778, and the great New Lanark mills were established by the 1780s (47). There was a booming demand for Scottish coal, which was abundant in the Lowlands, mostly in a broad belt across the country from south of Glasgow to the sea coast on the north side of the Firth of Forth. Leasing out coalmining property was a new means of generating income for aristocratic landowners. Some leases were advertised with the bonus of colliers, bound to the pit in a form of serfdom, being part of the leasing package (48). Conditions for those working in the heavier industries were appalling, but the great economic uplift in Lowland Scotland was reflected in wage levels. Whereas in England (in particular in the London area) wages remained static virtually throughout the eighteenth century, the second half of the

century saw Lowland Scottish wages double or more (from a very low initial level). Between 1750 and 1790, a mason's pay could rise from 10d [4p] a day to 2s [10p], a manservant's from £3 to £10 a year, and a maidservant's from 1-2 guineas to 4-5 guineas a year (49). It is apparent that the growth of industry in the Glasgow area was creating a new spending power among the lower orders, which would be reflected in passenger numbers once steam navigation opened up wider opportunities for leisure travel.

At this point a question may again be asked about the origins of the undoubted intellectual and technological advances of the Scottish people during the eighteenth century. Several factors coming from Scotland's history must be considered as playing some part. To start with, in spite of its Highland-chieftain type of rule (or possibly because of the clan-family nature of that regime), Scotland was socially less segregated than England. A wider spread of education, and the less elitist culture of its Presbyterian church, gave more scope for social mobility, or at least social intercourse, than in England where the parson and the squire shared the same social hierarchy and were both well distanced from the lower orders. It is reasonable to conjecture that the inventive young pioneer of steam engineering William Symington, for one, would have found the Scottish social environment more supportive than that of England.

In science and technology, encouragement for Scottish achievements came from the quality of higher education, and even more from the broadly based orientation of its universities. While Oxford and Cambridge remained exclusive and traditionally ecclesiastical, Scotland's universities, and in particular Edinburgh and Glasgow, were winning international reputations in medicine and the sciences. Entry to Scottish universities was much easier for students of lesser means. In 1790, half of all Glasgow University students had fathers in the 'industry and commerce' category (50). Perhaps most importantly, Edinburgh in particular was noted for its intellectual sociability. There was freedom for discussion in its clubs, where aristocrats, alumni of the university and

practical men of ideas could come together, in an atmosphere of shared thought unlikely to be found in the cloistered halls of the English universities (51).

Nevertheless Scottish society experienced its own form of social division between the ruling classes and the rest. One item of evidence can be seen in the following notice, which was required to be published in every parish kirk, and was reprinted in several editions of the *Caledonian Mercury* in June 1744:

> We, the Justices of the Peace [and other authorities listed] ... met, considering: That when Luxury and a destructive Trade have brought a Nation to the verge of Ruin, and Indigence shows its threatening Face in all Corners, Every Man is called upon to avert the impending Evil. The vast Progress of Luxury is as obvious as its unhappy Effects; nor is it less certain that this exotic Disease is greatly nourished among the Lower Rank (*whose Frugality and Labour ought to make the Riches of their Country*) [my italics] by the Practice of Smuggling, a Trade highly pernicious ... which must soon deprive the whole Nation of the Necessities of Life ... [We] do therefore unanimously resolve to the utmost of our Power to discourage all kinds of Smuggling [etc].' (52).

With literacy widespread in Scotland, it has to be wondered what that Lower Rank thought, on reading about their obligation to be poor and hardworking. Nevertheless eighteenth-century Scotland possibly did offer more scope for a likely lad to succeed.

The relationship between church and populace may have played a part. Whereas there was an increasing abandonment of formal religion in England (53), Scotland remained noticeably more of a churchgoing society. The established Presbyterian church shared much of the local administration, and was influential in trying to provide basic schooling for the country's children. The principle came with the Reformation in 1560, from the belief that widespread literacy was the best means of disseminating the gospel. Progress was made towards universal schooling, even though some of the

establishment were clearly not in favour of it. Reporting on the condition of the parish of Cadder in Lanarkshire in 1790, William Barclay, the local schoolmaster, declared:

> When an attempt was made to better the school-master's condition, some lords opposed it. They wished parish schools suppressed altogether, because their servants were being corrupted by being taught to read and write ... 'They would be more obedient and dutiful were they more ignorant and had no education.' (54).

In spite of that lordly opposition, education in Scotland progressed, and the gains extended to all levels.

The nineteenth-century intensification of forces that divided Scotland into the two contrasting societies, the industrializing Lowlands and the rural Highlands, was of greater economic consequence than England's class differentiation. Life in some parts of the Highlands sank so low that depopulation was the only alternative to starvation. Big Highland landowners found in sheep-farming a better means of getting an income from a land inherently unsuited to the English style of improvement. Great numbers of the rural population left the Highlands for better prospects in the Lowlands, or emigrated. Some, particularly in the far north-west, were driven to scrape what living they could from harvesting kelp (seaweed for fertiliser) and crofting on remote coasts (55). The poor in Mayhew's London of the same time faced a daily struggle, but in the bloated economy of that city, there was the prospect of survival, if only by fighting over scraps (56). In the Highlands at the time of the Clearances, there was no viable economy of any kind left to which the population could cling.

Glasgow's metalworking industry, fed from abundant local sources of coal and ironstone, sustained the Lowland economic advance. Glasgow probably outdid Manchester and the other industrial towns of northern England in creating a monster of

industrial squalor, unalleviated by any concern for the workforce (57). The rise of Scottish industry not only had drastic environmental consequences, but in addition led to significant changes in the ethnic make-up of the population. Rapidly growing industry created a demand for labour, which was drawn not only from all over Scotland but also, significantly, from Ireland. Glasgow's factories, however, were by no means the only magnets for Irish workers. Scottish Lowland farmers were customarily able to get the extra hands they needed for the annual grain harvest from among industrial casual labourers and hand-loom weavers. As that source of labour fell away with the rise of industry, opportunities opened up for Irish workers, and in the first half of the nineteenth century many thousands were brought to Scotland for the few weeks of the harvest. Many stayed on, and in 1841, the census of Scotland found that Irish-born people made up nearly five per cent of the population (58). Though many were Protestants, the great numbers of Irishmen faithful to the Roman-Catholic church, coming into a predominantly Protestant area, brought lasting religious tension (59). This immigration, and the extent and significance of the role played by the newly introduced steamboats, are discussed at greater length in chapter 7.

In the course of the nineteenth century, the Highlands of Scotland underwent another change, from a country with a ruined rural economy to one that could survive through its attractions for the holiday-maker. Chapter 3 introduces more comprehensive discussion of the part in this played by the new steamboat, which after the tycoons of Glasgow had shown the way, brought summer day-trippers across the Firth of Clyde to small communities that represented the remnants of a once viable Highland society. Spectacular scenery and the lure of wildlife brought a wider invasion by fashionable English and Scottish, bringing guns and rods for a seasonal holiday (60). By the last half of the nineteenth century, the transformation of the Highlands of Scotland into a largely empty but romantically scenic playground for the privileged was virtually complete.

This chapter began with a look at Britain in the eighteenth century, when a society characterized by patrician rule, extremes of wealth and poverty, ignorance and intellect, gross inequality and blinkered patriotism, was moving towards the creation of the world's first industrial colossus. To make this period of industrial advance possible, Britain enjoyed the advantages of favourable geology, isolation from petty Continental wars, an island history that encouraged Britons to go out and make money from overseas ventures, and an immeasurable gain from control of international trade. In England, the landowning system allowed the agricultural improvement needed to support a rapidly growing population, and – this was especially important – enabled a ruling class to amass the investment capital necessary for industrial growth. Britain had legislated since the Reformation to reduce commercial intervention, giving the individual the chance to achieve material success by exploiting new technologies for private profit. This evolution of economic policy towards the *laissez-faire* of Victorian commerce had a particular significance for the operational management of passenger-carrying steamboats, its effects being especially noticeable in the highly competitive conditions of London.

The purpose of this review of Britain's society in the 1780 to 1850 period has been to provide a context in which the social significance of the coming of the paddle steamer can be explored in more detail. One question among many inevitably asks why steam navigation developed in Scotland rather than in England. It can be reasoned, firstly, that the necessary engineering capability flourished there because cultural conditions in Scotland brought intellectual and practical interests closer together than in England, with its more rigid distinctions of class and culture. The geographical advantage was also important: positioned at the maritime gateway for Glasgow, Clydeside shipbuilders were at a strategically excellent location for servicing and supplying an international maritime trade. But the capacity for invention may also have been associated with the same cultural and intellectual achievements that characterized the Scottish Enlightenment. The social and cultural influences associated with the beginnings of steam navigation are

examined more closely in the following chapter, which outlines the pioneering introduction of the passenger-carrying steamboat in Scotland, and the early stages of the expansion of steam-powered travel that followed.

2.

Notes and references

1. The term 'British' is used here of some activities, attitudes and behaviour that were in fact exclusively English. This usage is largely unavoidable since, in the period covered, the English in general saw themselves as British by nationality, and Britishness was the chief focus of the Englishman's assertions of patriotic loyalty. The term 'British society' is used here as meaning the societies of England and Scotland taken together. In socio-economic and cultural reality, the two were quite different, even though they had become one nation by decree in 1707.

2. Preparation of the societal outline attempted here has drawn on many published works of historical analysis of these years, which may be regarded as the most intense period of technological and economic change in the Industrial Revolution, and has thus attracted a correspondingly great amount of historical study. The publications from which referenced material has been obtained are listed in the Bibliography.

3. In spite of the humiliating defeat in America, 'the British elite recovered. By the 1820s, Britain's rulers would claim dominion over more than a quarter of the world's population ... its ruling class would actually increase in size, in homogeneity, in wealth and in range of power.' L. Colley (1992), *Britons: Forging the Nation 1707-1837,* New Haven and London, Yale University Press, p. 149.

4. The East India Company was formed in 1599 with a chartered monopoly of trade in the eastern hemisphere. After its move to India in 1623, the growth of its political and military power led to clashes with the similarly ambitious French, culminating in the defeat of French-supported forces at the battle of Plassey in 1757, and in the break-up of the Maratha Confederacy of Hindu states in 1818. The Company effectively ruled much of India until control was taken over by the British Government in 1858. P. Lawson (1987), *The East India Company: A History,* London, Longman, *passim.*

5. E. Baines (1835), *History of the Cotton Manufacture in Great Britain,* London, Fisher, Fisher and Jackson, pp. 346/7.

6. W. Richmond (1833), *A Series of Maritime and Mercantile Tables of the Shipping in the Trade and Commerce of Great Britain,* Newcastle upon Tyne, Hermana and Perring. Table 18 – 'Value of goods exported'. (no page numbers).

7. P. K. O'Brien, 'Political preconditions for the Industrial Revolution' in P. K. O'Brien and R. Quinault (1993), *The Industrial Revolution and British Society,* Cambridge, Cambridge University Press, p. 124.
The importance of military success was put by the historian John Rule: '... overseas markets, by and large the trophies of war, were of great value for the growth of English manufacturing ... , which relied on importing raw materials.' J. Rule (1992), *The Vital Century. England's Developing Economy 1714-1815,* London, Longman, p. 271.

8. The arrogance engendered by international success also brought '... an unlovely and almost bottomless complacency ... [when] ... at the mid-point of the century Great Britain was strong enough to crush her last rival and become the leader and arbiter of the world.' H. Brogan (1990), *The Penguin History of the United States of America,* Harmondsworth, Penguin Books, pp. 74-6.

9. R. Southey (writing as Don Manuel Alvarez Espriella) (1814), *Letters from England,* London, Longman, Hurst, Rees, Orme and Brown, Vol. III, p. 179.

10. H. Perkin (2002), *The Origins of Modern English Society,* London, Routledge, pp. 63-6.

11. T. S. Ashton (1955), *The Industrial Revolution, 1760-1830,* Oxford, Oxford University Press, p. 111.

12. Perkin, op. cit., p. 65.

13. Income change shown for the middle-ranking categories listed in Fig. 13 is based on information published in:
(a) 'A Scheme of the Income, and Expences, of the several Families, calculated for the Year 1688', by Gregory King, in G. Chalmers (1802), *An Estimate of the Comparative Strength of Great Britain,* London, J. Stockdale, p. 424.
(b) J. Massie (1756), *Calculations of Taxes for a Family of each Rank, Degree or Class for one Year,* London, Thomas Payne, p. 17.
(c) P. Colquhoun (1806), *A Treatise on Indigence, Exhibiting a General View of the National Resources for Productive Labour,* London, J. Hatchard.

14. The participation of merchants in financing steamboat ventures is explored further in chapters 4 and 5.

15. The initial key to the commercial success of Richard Arkwright (1732-92) was his invention in 1768 of a process that could spin cotton thread strong enough to be used as the warp (the lengthwise strand) in making cloth. Production on an industrial scale came in 1771 when he built his first factory at Cromford, chosen for the reliability of a source of water power to drive his machinery. He was knighted in 1786.

16. Colonel John Byng (1743-1813) recorded his impressions of life in the English and Welsh countryside, gained in a number of horseback journeys made between 1780 and 1792. His writing is enlivened by trenchant comments on trade, industry, and the frivolities of high society. Byng had been a lieutenant-colonel in the Grenadier Guards, and in his later years held an appointment in the Stamp Office. He inherited the Torrington viscountcy at the end of his life, and the account of his travels was originally published as the *Torrington Diaries.*

17. D. Adamson (ed.) (1996), *John Byng (Viscount Torrington): Rides Round Britain,* London, The Folio Society, p. 187.

18. England's agrarian system, basically of landowners, tenant farmers and a large wage-earning labour force, was different from the Continental tradition of small self-run peasant holdings. The historian Richard Brown stresses that the commercial structure of English farming was established by 1700: 'Britain [England] was not characterized by self-supporting rural communities ... [but] ... was modern in two important respects. It was both market-oriented and regionally specialized. Britain was more or less self-sufficient in food, and a net exporter of wheat, until the 1760s ...'. R. Brown (1991), *Society and Economy in Modern Britain,* London, Routledge, pp. 49-50.

19. The socio-economic regime of Scotland and its influence on the structure of traditional farming in the Highlands are discussed more fully from p. 37, and in chapter 3.

20. 'Our men will go to the Wakes if they were sure to go to the D...l next', Josiah Wedgwood is quoted as saying in 1772. R. Porter (1991), *English Society in the Eighteenth Century,* London, Penguin Books, p. 327.

21. Adamson, op. cit., p. 197.

22. N. McKendrick, J. Brewer and J. H. Plumb (1982), *The Birth of a Consumer Society; the Commercialization of Eighteenth-Century England,* London, Europa Publications, pp. 13-15.

23. Baines, op. cit., p. 446.

24. Reginald Nettel (trans. and ed.) (1965), *Carl Philip Moritz. Journeys of a German in England in 1782,* London, Jonathan Cape, pp. 27 and 60.

25. Lady Jackson (ed.) (1873), *The Bath Archives: A further Selection from the Diaries and Letters of Sir George Jackson KCH,* London, Richard Bentley and Son, Vol. 1, pp. 121-2.

26. Mr and Mrs S. C. Hall (1861), *The Book of South Wales, the Wye, and the Coast,* London, Arthur Hall, Virtue and Co., p. 163 and *passim.*

27. The art historian Ernst Gombrich ascribed the new interest in nature, and its influence on English landscape gardening, to seventeenth-century Continental painters:

> '... the inventions of Claude [Lorraine, 1600-82] so captured the imagination of admirers in England that they tried to transform ... scenery [to] make it conform to the creations of the painter.' E. H. Gombrich (1972), *The Story of Art,* Oxford, Phaidon Press, p. 330.

> '... the search for picturesque beauty that sent poets and painters to the Lakeland was a search for motifs that reminded the art lovers of paintings, preferably those of Claude [Lorraine] and Poussin [Dughet].' E. H. Gombrich (1977), *Art and Illusion,* Oxford, Phaidon Press, p. 265.

28. W. Combe (1822), *Doctor Syntax in Search of the Picturesque,* London, C. Daly, *passim.*

29. E. Burke (1818), *A Philosophical Inquiry into the Origin of our Ideas of the Sublime and Beautiful,* Glasgow, A. and J. M. Duncan, p. 158.

30. *A Picturesque Pursuit. Scottish Landscapes from the National Gallery of Scotland.* The Fleming Collection, London, 22 June to 4 September 2004.

31. L. Colley (1992), *Britons. Forging the Nation 1707-1837,* New Haven and London, Yale University Press, p. 173.

32. The Elizabethan Poor Law, still operating in the eighteenth century, made each parish responsible for its own poor, finding food for the impotent and work for the able-bodied. Population growth and unemployment imposed increasing burdens on parishes, and an Act of 1723 (Geo. I c.7) proposed workhouses into which all poor might be forcibly removed. By the Act of 1782 promoted by Thomas Gilbert (22 George III c. 83), only the old, sick and infirm were to be sent to the workhouse.
From Mark Newman, 'Afterword' in Joseph Townsend (1817), *A Dissertation on the Poor Laws,* London, University of California Press, p. 70. The uselessness of the Poor Law measures was summed up by Townsend: 'These laws promote the evils they mean to remedy', p. 17. The local basis of Poor Law remained in place until it became a county responsibility in 1929.

33. *The Chester Courant and Anglo-Welsh Gazette,* 5 January 1830.

34. Ibid., summer 1830.

35. The Reform Act of 1832 was the achievement of prime minister Earl Grey (1764-1845); its chief measure was the extension of the vote to £10 householders, increasing the status of middle-class citizens and generating resentment among the working classes.

36. *The Illustrated London News,* 22 May 1847.

37. E. T. MacDermot (1964), *History of the Great Western Railway,* quoted in J. Simmons (1991), *The Victorian Railway,* London, Thames and Hudson, p.319. The treatment of

third-class passengers, allowed only on goods trains in the early years of several railways, was strongly criticised by the Board of Trade's inspector after the death of eight workmen in a wrecked train in 1841. The Great Western Railway maintained the 'goods trains only' policy for third-class passengers until some years later. L. T. C. Rolt (1982), *Red for Danger,* Newton Abbot, David and Charles, pp. 37-8.

38. One instance of static wage expectations comes in the well-known *Diary of a Country Parson* by the Rev. James Woodforde, who recorded paying his man Benjamin Leggatt exactly the same amount (£10) every year from 1782 to 1798. D. Hughes (ed.) (1992), *The Diary of a Country Parson,* London, The Folio Society, p. 210 and p. 398.

39. T. M. Devine (1999), *The Scottish Nation, 1700-2000,* London, Allen Lane, pp. 130-6, and H. G. Graham (1901), *The Social Life of Scotland in the Eighteenth Century,* London, Adam and Charles Black, p.224.

40. Union of Scotland with England in 1707 was to have established acceptance of Hanoverian rule, but this was resisted by supporters of the Stewart dynasty (the Jacobites). Their rebellions in 1715, 1719 and 1745 were finally ended at Culloden in 1746. This not only brought the end of the Jacobite cause, but also the destruction of the patriarchy of the Highland chieftains.

41. M. Bartholomew and P. Morris, 'Science in the Scottish Enlightenment', in D. Goodman and C. A. Russell (eds) (1991), *The Rise of Scientific Europe 1500-1800,* Milton Keynes, Hodder and Stoughton / The Open University, p. 280.
The *Treatise of Human Nature* and later works made David Hume (1711-76) a dominant influence on twentieth-century empiricist philosophers. James Hutton (1726-97) established the basis of modern geology with his work on the igneous origin of rocks. The chemist Joseph Black (1728-99) advanced knowledge of carbon dioxide and carbonates, and gained a permanent place in the history of physics when in 1756-61 he evolved the theory of latent heat.

42. Ibid., pp. 280-8, and B. P. Lenman, 'From the Union of 1707 to the Franchise Reform of 1832', in R. A. Houston and W. W. J. Knox (eds) (2001), *The New Penguin History of Scotland,* London, Penguin Group, pp. 339-40.

43. In the hope of making fortunes through colonising and trading, nearly £400,000 (about half of Scotland's total capital) was raised in 1695 for a venture in Central America. The scheme was fundamentally ill conceived, the chosen site soon having to be abandoned. The few survivors of a second expedition eventually surrendered to Spanish forces, and the entire investment was lost. J. Prebble (1968), *Darien. The Scottish Dream of Empire,* Edinburgh, Birlinn, *passim.* B. Lavery (2001), *Maritime Scotland,* London, B. T. Batsford Ltd, pp. 26-7.

44. Geographically the Scottish Highlands are generally defined as the area north and west of an imaginary line running from Stonehaven on the east coast, to Helensburgh on the Clyde estuary, and including most of the western islands, but excluding Caithness and the Shetland and Orkney Islands.

45. 'Till the Union made them acquainted with English manners, the culture of their lands was unskilled ... and their houses as filthy as the cottages of Hottentots'. D. Green (ed.) (1984), *Samuel Johnson,* Oxford, Oxford University Press, pp. 606-7.

46. C. Hibbert (ed.) (1968), *Louis Simond: An American in Regency England. The Journal of a Tour in 1810-1811,* London, Pergamon Press, p. 81.

47. The New Lanark cotton mills, notable showplaces among factory-sized mills of the time, were built by David Dale (1739-1806) and later managed and part owned by his philanthropic son-in-law Robert Owen (1771-1858).

48. The *Caledonian Mercury,* Edinburgh, 10 May and 1 September 1743.

49. Sir John Sinclair (ed.) (1973), *The Statistical Account of Scotland 1791-99*, Wakefield, E. P. Publishing, Vol. VII, p. 91.

50. R. B. Sher, 'Commerce, religion and The Enlightenment in 18th century Glasgow', in T. M. Devine and Gordon Jackson (eds) (1995), *Glasgow*, Manchester, Manchester University Press, p. 312.

51. A. Calder, 'Scotland in the Eighteenth Century', in M. Bartholomew, D. Hall and A. Lentin (1992), *The Enlightenment*, Milton Keynes, The Open University, p. 439.

52. The *Caledonian Mercury*, Edinburgh, June 1744.

53. H. Mann (1854), *Religious Worship in England and Wales*, London, George Routledge and Co., *passim*. Little more than a third of the English were going to church on Sunday. Religious attitudes interacted with steamboat operations; in Scotland travel was prohibited on the Sabbath, while in England nonconformists took the opportunity to use steamboats for excursions (see chapters 3 and 5).

54. Quoted in Sinclair, op. cit., Vol. VII, p. 77.

55. The destabilization of the Highland rural economy after the battle of Culloden in 1746 left many areas with a population that its agriculture could not support. Most of the Gaelic-speaking people were evicted, notoriously in the house-burning clearance of estates in Sutherland. South Argyll and the island of Bute, the most accessible destinations for leisure steamboats, were less directly affected. The socially disruptive loss of their traditional way of life came rather from the incursion of summer visitors, the effects of which are discussed in chapter 3.

56. P. Quennel (ed.) (1960), *Mayhew's London*, London, Spring Books, pp. 298-317.

57. T. C. Smout (Dow Lecture, University of Dundee, December 1980), *The Social Conditions of Scotland in the 1840s*, Dundee, University of Dundee. Smout quotes the mining commissioner Simon Tremenheere saying in 1844: ' ... the low animal habits of the uneducated ... receive little check from a superior presence.'

58. J. E. Handley (1943), *The Irish in Scotland 1798-1845*, Cork, Cork University Press, p. 35.

59. W. Ferguson (1990), *Scotland. 1689 to the Present.* (Vol. 4 of *The Edinburgh History of Scotland)*, Edinburgh, Mercat Press, pp. 292-3.

60. Thomas Cook, the originator of organised holiday travel, began excursions to the Highlands in 1846. These carried tourists by rail to Glasgow or Greenock, and from there by steamboat to west Highland destinations such as Fort William, Oban, Iona and Staffa. The Thomas Cook directory for 1861 offered forty-one different Scottish itineraries. A note said that 'tickets are available to the denizens of the North as freely as to those South of the Borders', possibly implying that Scots were reluctant to use a service that they saw as being largely set up to give privileged Sassenachs bargain-price travel over the Scotsman's own countryside. Thomas Cook (1861), *Cook's Scottish Tourist Official Directory*, London, W. Tweedie / W. H. Smith and Son, p. 21.

Fig. 21. The region of Scotland discussed in this chapter.

3

Origins and consequences on the Clyde

The technical history set out in chapter 1 took the development of early steamboat operations in Britain up to the day in 1812 when Henry Bell in Glasgow welcomed aboard the *Comet* a few fare-paying passengers, for the first scheduled steam-powered journey down the Clyde to Greenock. This chapter takes up the story from that point, firstly discussing why that first commercial steam navigation operation came where and when it did, and what it was about the local socio-economic climate that stimulated its beginning and encouraged its expansion. The major socio-economic topic of the chapter follows, examining the changes associated with the introduction of steamboats in the area, the social consequences for Scottish communities, and the wider effects on life and commerce in the region of islands and sea lochs to the west of the Firth of Clyde. In concluding comments, the chapter further discusses the point that the launch of Bell's *Comet* was a key starting point for the growth of Clydeside shipbuilding that led, during the nineteenth century, to Scotland's world leadership in marine engineering.

The theatre of operations with which this chapter is concerned is indicated in Fig. 21. It was here that Bell's enterprise with his innovative passenger-carrying boat changed steam navigation in Britain from being a limited field for experiment, to its position as a major force in practical commerce. The rapid expansion of steam-powered passenger transport by water that followed Bell's lead brought a number of consequences. For the immediate locality, there was a rapid opening-up of access to isolated communities, which brought social pressures as well as economic opportunities. For Glasgow and its associated maritime-based industrial extension down the Clyde, the initiative ultimately led to developments that had profound effects on the region's economy.

It has been stressed that the initiative for the start of commercial steam navigation in Britain came not from industrial needs, but from a leisure-based demand. The first steamboat service that Bell pioneered was designed to cater for people travelling for pleasure. Specifically, it was intended to facilitate enjoyment of that time in the social calendar of the *beau monde,* when many of the aristocracy and the wealthy took themselves off for a month or so to a seaside watering-place, there to gamble, seek liaisons and to socialize with the right people, while enjoying the prospect of gaining in health through seawater therapy.

In Henry Bell's time, the seaside bathing resort was fast overtaking the spa in popularity for remedial leisure. The idea that bathing itself had tonic and curative qualities was by no means new, having been recommended by some enthusiasts since at least the sixteenth century (1). It was not until the middle of the eighteenth century, however, that the therapeutic qualities of seawater itself really came to the attention of the leisured class. Thanks largely to the promotional zeal of Dr Russell at Brighton (2), bathing in the sea rapidly became the fashionable summertime activity, and the focus of much social ambition was turned from the spa to the seaside resort. At such places, entrepreneurs built hotels and set up seawater bathing facilities, and organised the essential cultural amenities for their orderly enjoyment (3). There the elite could enjoy the social round, while being restored and invigorated with hot and cold baths, seawater purges, and a dip in the sea.

The aristocratic and wealthy who lived in the area around Glasgow not only had spas to visit, but also, at the cost of a certain amount of arduous travelling, access to another recreational pleasure. Virtually in sight was an area of outstanding scenic beauty, in the western Highland region of Argyllshire, and in the benign climatic area of Bute and the other islands of the Firth of Clyde. In particular, right on their doorstep was the scenically appealing region by the Gareloch, which formed a natural point of entry for

travel to Loch Lomond and the Trossachs. For those who looked for relief from the grime and industrial stress of Glasgow, and could afford the cost of travel, a visit to Garelochside or beyond was one of the summer's pleasures. It was with the aim of catering for this leisure interest that Henry Bell and his wife set up their *Baths Inn,* at a small settlement on the north shore of the Clyde estuary. Here Bell pursued his ambition to generate more business, by building and operating a steam-powered passenger boat capable of giving his customer a faster and more comfortable journey from Glasgow.

It is not easy to find a consistent definition of the character of Henry Bell. For the Reverend David Macrae, a local chronicler writing half a century later, ' he was a simple uneducated man ... who amused himself with projects while his more practical wife kept a hotel and a suite of baths at a Clyde watering place.' (4). Since Macrae seems to have favoured a pawkily humorous style in his writing, his disparaging comment should perhaps not be taken too seriously. But that appraisal does in fact appear to reflect some part of the view of Bell taken by contemporaries.

One of the most striking things about research into the history of steam navigation is the discovery that until the publication of the biography of Henry Bell by Brian Osborne in 1995 (5), this man who undoubtedly was the uniquely successful pioneer of steam navigation in Europe, and who in Osborne's words 'laid the foundation for an industry which won Scotland international renown' (6), remained one of the great unknowns of technological development. Osborne's discussion of the possible reasons for this obscurity begins with a comparison with the treatment accorded Robert Fulton. 'Bell's and Fulton's records in steam navigation,' the author points out, 'are certainly comparable ... However the Scots engineer has received only a fraction of the attention that has been devoted to his American contemporary.' (7). One possible reason, according to Osborne, is the absence of an accessible archive of Bell's papers (8). But he goes on to say: 'The lack of serious attention to Bell may owe something to the man

himself ... Bell, with his boasting, his shaky financial record, an artisanal background, his problems in literacy, was not perhaps the stuff of which Victorian hero figures were made.' (9). Bell certainly did not seem to be a very convincing figure among his contemporaries, and when he put a question to James Watt about steam navigation, he received an answer that seemed to be derisory about Bell's capabilities (10). Nevertheless, although Bell had no academic education, he was in fact a professionally experienced and incessantly active man, keen to try out new ideas and projects. Perhaps his mixed character is best summed up in a comment by Osborne: 'Although John Robertson, the builder of the *Comet's* engine, described Bell as "restless, unmethodical and by no means a good hand at machinery", there can be no doubt that Bell was an ambitious and talented man who was much more than just the owner of the *Comet.*' (11).

Henry Bell was born at Torphichen Mill in West Lothian in 1767. He first qualified as a millwright, then went to Borrowstounness (Bo'ness, on the Firth of Forth) to learn ship modelling, and followed that with a year in an engineering workshop at Bellshill (near Glasgow) (12). At some time he worked in London for John Rennie (1761-1821), the famed Scots-born civil engineer who, like Bell, had trained as a millwright (13). Around 1790 Bell moved back to Glasgow, where he was involved in the supervision of building projects, and put forward a scheme for Glasgow's water supply (14). His professional standing is apparent from the fact that in 1797, when he married Margaret Young, his name appeared as a member of the Corporation of Wrights (15). At some time close to the end of the century, Bell and his wife moved to the Garelochside location where they established their hotel.

The merit of the place as a focal point for summer visitors from the city can be appreciated from the map of the area in Fig.22. Long before Bell's time, many of those who could afford it, and were prepared for a tedious and uncomfortable journey from Glasgow, had been drawn to the scenic beauties of Garelochside and the romance of Loch

Lomond. The preferred route was to take the one reasonable road, along the south shore of the Clyde from Glasgow to Greenock, and then cross the river by a short ferry-trip to a landing-place on the north bank. From there, travellers could continue their journey into the Highlands.

The eighteenth-century feudal owner of the region was Sir James Colquhon (1717-1791). Keen to exploit the development potential of his land, Sir James laid out a coastal area in plots for building, and on 11 January 1776 placed the following notice in the *Glasgow Herald:*

> To be feued [leased] immediately, for building upon, at a very reasonable rate, a considerable piece of ground on the shores of Malig, opposite Greenock. The ground will be laid out for houses and gardens ... N.B. bonnet makers, stocking, linen and woollen weavers will meet with encouragement (16).

No textile industry eventuated, but a greater opportunity for profit soon came from wealthy Glaswegians who liked to take summer holidays away from the city. The feued ground became a desirable location for holiday villas, and by 1785 a small town had grown up. Another Sir James (not the one who laid out the plots in 1776 but his successor, created baronet in 1786), named it in honour of his wife, Lady Helen, and in 1802 Helensburgh was granted burgh status (17).

Travel beyond the immediate locality presented real difficulties. Only the most determined and adventurous of holiday-makers, and those whose trade or business made it necessary, travelled far. Getting to Bell's hotel overland meant hours of uncomfortable horse-drawn wagon travel along unimproved roads. The alternative was a trip by boat down the Clyde, at the mercy of wind and weather, and tedious because of the long slow journey down the river. Better means of travelling out from the city to the

coasts and islands had been sought for years, in particular to reduce the time taken in travelling down the first narrow stretch of the river.

Henry Bell had evidently been thinking about machine-driven propulsion for some time; he had discussed steam propulsion with Symington, and is believed to have examined Symington's *Charlotte Dundas* (18). While his wife ran the hotel, he spent a good deal of his time from about 1806 working out how the technology he had seen might be adapted to suit a passenger-carrying vessel. The money he raised in 1810 by mortgaging the hotel very probably went towards financing his steam-propulsion project. In the summer of 1812, Bell was ready to launch his new service, announcing it with an advertisement in the *Glasgow Herald*, which is reproduced in Fig. 23.

It is interesting that although the notice is headed 'Steam Passage Boat', there is no great emphasis on the novelty of steam propulsion, but just the claim that it will offer speed as well as comfort and safety. The vessel is still presented as a sailing boat, 'to sail by the power of wind, air and steam'. Bell's boat was fitted out for comfort, and in playing down the steam-engine aspect, he may well have wanted the note overall to be reassuring rather than novel.

Another important point is that Bell tells passengers that they will not be expected to tip servants or crew. In doing so, he is clearly making a decisive move away from the customary treatment of passengers in traditional travel services. In the prevailing state of passenger transport, virtually enforced tipping of drivers and servants was a notorious and inescapable feature of coach travel and this, with other extras, pushed passengers' costs far above advertised fare prices (19). The coming of steam navigation introduced a new approach to the operation of travel services, foreshadowing the eventual ending of the rough-and-ready atmosphere associated with the coach and the wagon on the road.

Bell had clearly gone to some trouble to provide comfortable furnishings in the vessel's very limited accommodation. It is reasonable to suppose that his commercial thinking was that his hotel customers were necessarily from among the more well-to-do, and would therefore expect good service and comfortable accommodation on the journey. One of the most interesting points about this, however, is not so much Bell's reasoning about his own operations, which is understandable as a logical appraisal of his market. Even more worth analysing is the fact that the new standard of service, to go with the quality of accommodation, appears to have signalled a significant change in the relationship between the service provider and the customer. This became general in passenger-carrying steamboat operations in the following decades, and showed itself noticeably in services outside those on the Clyde and the Thames. Its significance, and the question of its motivation, are important aspects of the introduction of the new steamboat technology; this notable change in the relationship between the traveller and the supplier is discussed more fully in following chapters.

When Bell's service first started, passengers could not be taken directly to Helensburgh, because the pier there was inadequate. Instead, they were dropped at Greenock, on the south side of the estuary, and taken across to the hotel by the old-established sailing or oar-driven ferry. Later, when steamboat services down the Clyde built up, a new pier was constructed. As paddle-steamer operations became more widespread, suitable piers were built at many potential development destinations in the sea lochs of the Western Highlands. Piers capable of accommodating steamboats were crucial components of the spread of steamer services, and were part of the process of improving access for remote communities that hitherto had only the most tenuous means of communication with the wider world (20).

Draught restrictions on the Clyde would have dictated the size limits to which Bell could build the *Comet*. When launched, the vessel had a waterline length of 42ft (12m),

a beam of 10.5 ft (3.2m) and a draft of roughly 5 ft (1.5 m). Within that small hull, Bell managed to fit accommodation clearly aimed to suit the carriage trade. The 10ft by 7ft (3 x 2.2m) main cabin was 'elegantly furnished with sofas all round', although a table and other fittings were of plain wood. Partitions could be moved so as to make three compartments (which must have been extremely small), 'two of which contain each two handsome beds'. In the even smaller forward cabin, or 'steerage' (21) 'are four beds ... and six lockers.' (22). In providing the beds, it is possible that Bell had in mind the prospect of the *Comet* being used for much longer journeys at some time in the future.

The shipbuilder's plans discussed in chapter 1 show that the design Bell had opted for was that of an orthodox sailing vessel. This would clearly have been the right course to ensure seaworthiness; a conventionally tall mast was also retained, for use when the vessel was functioning as a sailing boat, but this also doubled as a chimney to carry off smoke from the boiler. Some idea of the appearance of the *Comet* in service can be gained from the illustrations shown in Fig. 24, but as the related discussion indicates, it probably has to be accepted that no one of these drawings shows a truly accurate depiction. Henry Bell had put the innovative technology into a conventional vessel, with elegant lines that would no doubt have helped to reassure the nervous passenger. Whatever the degree of intent in this, the historical significance of the *Comet* lies in the fact that a momentous advance in the application of a new technology was made to meet the requirements of people travelling for their own personal interests. Adaptation of the technology for industrial use followed, but for the time being it was simply to satisfy a health-oriented leisure need that the first steamboat operations in Britain began.

This in itself suggests an answer to the question of why it was Henry Bell, and not someone from the ranks of established engineers, who first managed to assemble a practical, commercially acceptable steam-propelled craft and put it into service. Unlike most professional engineers and boatbuilders, he was both his own customer and his

own supplier. As an hotelier, he knew what he wanted, and probably had a good idea of what would most appeal to his clientele. As a technician with some experience in construction, machinery and ship design, he also would have been familiar with much of the technology. Above all, he would have been able to talk to boatbuilders, boilermakers and engine builders in their own language. Bell was not alone in trying to find the right answer in steam-propelled vessel design; but while he went ahead to design a leisure craft to suit his wealthy customers, others (probably equally advanced so far as the technology was concerned) may well have been still focused on the rather different criteria set by the needs of industrial users.

In its basic technology, Bell's steamboat was by no means the original, inventive achievement of a lone pioneer working in isolation. Robert Fulton's twin-paddlewheel steamboat had been in service on the River Hudson in America for five years before 1812. Eye-witness accounts of it by British travellers who saw the vessel in action, such as the diplomat Sir George Jackson (23), would have circulated in Britain. Moreover, less than a year after the start of the *Comet* services, the first of a stream of paddle steamers built by other operators was launched on the Clyde, suggesting that the basis of the technology was by then familiar to many. Once Bell had demonstrated a commercially practical design, which was essentially a traditional sailing craft into which the steam engine, boiler and paddle-wheel drive were fitted amidships, there would have been no great difficulty in building similar vessels.

Bell, as ever looking for new ventures, soon turned his attention to other projects, in particular for running mixed passenger and freight services up the coast to Fort William (24). The elegant and non-threatening appearance of the *Comet* (and the similar vessels that rapidly followed) probably contributed to acceptance by the fare-paying public. How the earliest passengers felt when setting out for the first time in a vessel with a steam engine hissing away within a few feet of them, paddles thumping,

and a coal fire sending smoke up the mast, can only be guessed. One early steamboat history describes how, soon after her maiden voyage, two of the *Comet's* passengers 'got off at Bowling [about twelve miles from Glasgow] to walk the rest of the way ... rather than getting blown up.' (25). But if there was any fear, it does not appear to have deterred people for long. Another anecdote of the early days, in a work published in 1876, tells of an 'old gentleman of 77' who claimed that 'it was no uncommon occurrence for the passengers, when the little steamer was getting exhausted, to take to turning the flywheel to assist her.' (26). But the size and complexity of the Boulton and Watt engine would have made such action unlikely, and perhaps the 'old gentleman' was joking, or his memory misled him.

Nevertheless, the existence of the story suggests that passengers may have found the machinery fascinating rather than frightening. If so, the reaction was unlike that of many passengers using the earliest railways some twenty years later. Anxiety and fear were common among first-time rail travellers; one diarist recalled putting his step-mother on a train and 'a more abject picture of terror ... I never saw.' (27). Rail and steamboat travel, however, probably aroused different emotions. Going by train would have felt like stepping into the unknown, to be confined in a box-like carriage and then driven along metal tracks in an alien fashion. Embarking on Bell's steamboat, on the other hand, would have been much like taking a trip in any sailing craft, an experience familiar to many. The unaccustomed noise and smell would no doubt have provoked reactions, possibly of fear, anxiety, irritation or even excitement. Whatever those reactions were, passengers by the hundred were soon embarking on paddle steamers. Any fears were evidently more than compensated for by gains in speed, reliability and convenience, and in due course by much cheaper fares.

Before the year 1812 was over, the first of a number of successively larger and more powerful steamers was built to follow the *Comet*. The second paddle steamer on the

Clyde, the *Elizabeth*, also built by John Wood, launched in November 1812 and 'on station' in March 1813, was larger and more powerful (40 tons, and 10 h.p.) (28). Even more than in the first steamboat, the owners saw the need to provide ample accommodation, fittings of good quality, and comfortable furnishings. The vessel had a 21-ft (6.3m) principal cabin (compared with the 10-ft cabin of the *Comet*), carpeted and with seats all round, a sofa, tasselled curtains, windows that could be opened, 'gold' fittings, a mirror, bookshelves and a selection of books 'by the best authors', and 'other amusements.' (29). In those early days, steamboat operators clearly believed that their clientele would expect high-quality accommodation on board, and set their fares accordingly. For the short Glasgow to Greenock trip, fares started at four shillings [20p] (30). At the time, this represented one fifth of a week's wages for the best-paid artisans, and more than two day's pay for most labourers (31). Within the next two decades, many more steamboats came into service and competition pushed fares down; by the early 1830s trips to Rothesay on the Island of Bute, well over 30 miles, could be made for as little as a shilling (5p).

The history of Bell's next major project, to launch the passenger and freight services described in detail in chapter 7, opens a small window on to matters of finance, ownership and entrepreneurial activity in the early years of paddle-steamer operations. Osborne notes that from correspondence that Bell had with Sir Hugh Innes of Lochalsh in 1819, about the services he wanted to set up, it appears that the *Comet* was valued at about £1800. A larger vessel for services to Skye and Lewis he put at £2500. In 1820, still looking for backing for island services, he estimated that a 'proper sea boat' of 160 tonnes would cost about £5500, while a smaller one, able to go through the Crinan Canal, would cost about £3500 (32). As something of a guide to what these figures meant, it is worth noting that when Bell in 1810 mortgaged the hotel at Helensburgh - the Baths Inn, other buildings and the ground they stood on - he hoped to raise £2000, although this is unlikely to have been the total value of the property (33).

When Bell was seeking finance for further projects, records of the constitution of a co-partnership of investors, which became the Comet Steam Boat Company, reveal that major shareholders included several landowners in the Fort William area - men who could benefit from the growth of trade through improved transport and communication (34). This typified the way that much new transport was financed in this period. Encouragement and money for investment for development often came from landowners looking for profit from the resulting increase in trade.

While Bell was switching his attention to passenger and freight schemes aimed farther north, there was a rapid development of steamboat services from Glasgow out to a widening holiday area west of the Clyde, and to remote places on the sea lochs of south Argyll and the Island of Bute. The design of paddle steamers settled, for a time, into the typical form discussed in chapter 1, and shown in Fig. 11. The general arrangement was to have accommodation in the 'best' cabin aft, a ladies' cabin amidships, and a cheaper cabin further forward. Although in the next few decades large-scale summer-holiday traffic was to make up the bulk of the Clyde steamer activity, travellers needing to move around the lochs and peninsulas on duty, for business or for work - Excise Officers, Cess [rates] collectors, traders, drovers and itinerant workers and others - were also grateful for the steamboat's comfort and reliability. Before steam, movement by sail in often hazardous conditions was the only alternative to laborious travel by horse or on foot. There was now the prospect of regular, widespread, reasonably comfortable and more reliable communication. However mixed the ultimate effects of the coming of steamboats may have been on the hitherto inaccessible areas of western Scotland, it had immediate practical benefits.

One of the most significant socio-economic aspects of this introduction of improved communication, however, is that the new paddle steamer was operating, in effect, at a frontier between two societies. Urbanizing, industrializing Lowland

Scotland, sharing with England much of the drive towards nineteenth-century prosperity, was one. Highland Scotland, struggling to adapt, and at the same time to retain something of its traditional way of life in the near-impossible, impoverished conditions of rural isolation, was another society altogether. The role of the steamboat, as part of the social upheaval overwhelming the Highlands from 1745 to the middle of the nineteenth century and beyond, was probably slight in comparison with other forces more politically and economically powerful. But its coming was undoubtedly one factor in speeding the exploitation of the Highlands by Lowland interests.

Large-scale penetration by steamboat tourism, and its attendant opening-up of the Highland landscape to new leisure pursuits, were to come later in the century. Immediate social impact, nevertheless, was discernible. One nonagenarian reminiscing in 1876 about life in Garelochside and Helensburgh commented: 'Before steamboats, connection to Dumbarton [from Greenock , on the Lowland side of the Clyde estuary] was by a fleet of wherries. These were quite open, for a consideration, to illegal enterprises - for example malt being run to smugglers, and the "liquid product" taken to Greenock for disposal.' (35). There is an implication that with steamboat services, scope for such activities would be reduced. That stricter regulation was going to come with the more orderly world of steamboats is evident from an advertisement in 1824 for sailings of the *Rothesay Castle* to Inveraray. This carried a warning that 'any person attempting to put whisky or any illicit article on board will be prosecuted.' (36). Illicit whisky production was endemic in the Highlands; the greater facility with which excise officers could make their rounds, and the opening-up of the country to easier regulation, would be unwelcome, at least in this respect, to many an isolated community.

Before the coming of paddle-steamer services, the local ferry-boat was one of the few means of travel between scattered communities. In an area of Scotland dependent on waterborne transport, ferries had special significance. By the common law of

Scotland, the right of ferry on navigable rivers, estuaries and sea lochs was vested in the Crown 'for behoof of the public'. Legal wrangles over ferry and landing dues inevitably arose as old-style ferrying clashed with the landing requirements of steamboats (37).

By the time that steamers began to reach out around Bute and beyond, it was apparent that landing facilities would be inadequate for the needs of the new type of service. Operators lost little time before taking their services to virtually every landing-place in most of the region shown in Fig. 25. Steamboats were calling regularly at Largs, down the Renfrewshire coast, as early as 1813. By 1815 , only three years after the launch of the *Comet,* most of the coastal communities in Bute and south Argyll were served by steamer. Tarbert on Loch Fyne, and Inveraray at its northern end, were reached in 1815, as was Campbelltown near the southern tip of the Mull of Kintyre. Some places had to wait longer; Lochgoilhead, for example, deep in the more remote part of Argyll, did not get a steamboat service until 1825, when its own Loch Goil and Loch Long Steamboat Company was formed (38).

Although there were protests from wherry operators about competition, it is reasonable to suppose that many of the owners of steamboats were themselves experienced operators of sailing vessels, who could see that the future now lay with steam. Early steamboats offered useful mail and parcel services, but were unable to carry much in the way of bulky and heavy freight; this meant that they were no competitive threat to cargo-carrying sailing vessels. There is some evidence, in fact, that sailing packets gained business when steam arrived. Improved access to Rothesay, for example, brought growth in the town's population, and thus extra trade for the sailing ships (39).

Steamboat operations developed rapidly in the second decade of the nineteenth century. One commentator noting the phenomenon was James Cleland, who reviewed the Clyde steamers' brief history in 1816, four years after Bell's first venture in the

Comet. Before steam, he wrote, 'not more than fifty passengers a day travelled between Glasgow and Greenock. Now, there are four to five hundred a day.' (40). Some all-year-round travel may have developed as early as 1816 on short runs such as that between Glasgow and Greenock, and commuting to homes there became popular among better-off Glasgow businessmen later. But the great increase noted by Cleland would have been mostly in summertime travel, for pleasure rather than business.

The arrival of this convenient new form of transport not only made for faster summer travel to resorts, but now also prompted more of the Glaswegian upper and middle classes to think about building holiday or retirement homes out in the congenial climate of the Isle of Bute. Even before steamboats made access so much easier, the most prosperous among them were already building villas for summer residence, on feued plots like those of Sir James Colquhon at Helensburgh. After 1820, residential development in and around the resorts mushroomed, as the steamboat began to play its part in changing summer-villa ownership from a privilege of the very rich to a prospect attainable by those merely rather well off. The first feuars building their summer villas were from the ranks of the merchant princes of Glasgow, but as the middle classes became more affluent, 'such pursuits could be parodied by possession of small seaside villas, or more often by taking a house for the summer, to be reached by an almost obligatory cruise down the Clyde.' (41). The steamboat holiday was thus becoming more widely established, and with it the development of the summer resort.

As in most resorts in England and Wales (42), seaside locations in Scotland depended for their successful expansion on demonstrating the fashionable tone of the place, by attracting the top people. The aspiring middle classes were then likely to follow. Ardrossan, one of the resorts farthest down the Renfrewshire coast from the Clyde, seemed to be doing the right thing. In its description of the town in 1845, the *New Statistical Account of Scotland* 'found it appropriate to record that people using

this as a summer resort for sea bathing have included the Duke of Buccleuch, the Earl of Home, the Earl of Glasgow, Lord Justice Clerk, Sir Alexander Muir Mackenzie, Lady Olivia Sparrow, Lord and Lady Mandeville, and ... other families of distinction.' (43).

The steamboat had now given the elite and the middle classes of Glasgow access to a summer playground, which they could reach by a journey that, in the summer, could be a source of pleasure in itself. Among the resorts, Dunoon and Rothesay became two of the most popular; these make interesting examples of the extent to which social-class preferences can influence development.

Dunoon, two miles across the Firth from Cloch Point and no more than a four-mile boat journey from Gourock, was surprisingly late in becoming a focus of holidaymaking attention. During the nineteenth century it made up for lost time, growing as an attraction but evidently retaining a certain stamp of refinement, since in 1903, it was claimed that 'there is no more fashionable watering place on the Firth of Clyde; the *beau monde* resort hither in large numbers.' (44). Even allowing for a touch of rose-tinted local opinion, Dunoon appears to have escaped some of the later vulgarization afflicting other resorts, possibly because it was late in acquiring a steamer pier. In 1817, a wealthy entrepreneur, James Hunter, bought an estate along the coast from the village, and in 1822, the similarly wealthy Lord Provost of Glasgow, James Ewing, built an imposing home in Dunoon itself (45). But it was only in 1828 that a pier long enough for steamers was built, by Hunter, outside Dunoon. The town finally acquired its own steamer pier in 1835, and then began to grow as a popular holiday centre for the summer crowds coming over from Glasgow.

The development of Rothesay on the Island of Bute, soon to become one of the most frequented resorts, was different. Located in a small bay in the most sheltered corner of Bute, Rothesay must have been appreciated for centuries as the best natural harbour in

the island (Fig. 26). The town had been created a Royal Burgh in 1400. Bute has such a mild year-round climate, with no mists and little snow, that in later years it was called 'the Madiera or Montpelier of Scotland' (46), but its salubrious qualities were sampled by only a few visitors until the early years of the nineteenth century. Word of its merits spread after an asthma sufferer from Ayrshire, Doctor Thomas Morrison, came to Rothesay in March 1808, and was so convinced of its suitability for anyone with chest complaints that he took a lease of the town's Stewart Hall for 25 years (47). The first steamboat called in 1814, and a new harbour suitable for continuing steamer use was completed in 1825 (48).

Rothesay was a sizeable and thriving place; in 1824 it had a population of four to five thousand, and a large fishing fleet. The town welcomed steamers - in fact from a revealing episode in 1831, it is clear that the burghers saw them as vital for the town's well being. At Westminster, the Government was proposing, in its new Harbour Bill, to put a tax on passengers travelling by steamboat. This stung Rothesay into action, and the Council sent a petition to the Commons, saying:

> That the recent introduction of navigation by the power of steam on the Clyde ... has conferred a great benefit on the natives by affording a ready expeditious and cheap conveyance from one place to another not equalled by any other mode. It has enabled people formerly cut off by the sea ... to be safely transported, ... improved remote and inaccessible portions of the Kingdom, ... led to the improvement of people and soil ... encouraged the building of houses, villas and cottages on many parts formerly waste ... (49).

The petition mentions that the cabin fare from Glasgow (a distance of about thirty miles) was 'sometimes 1 shilling (5p) or less'. This is a remarkable drop from the 4 shillings (20p) or more for the 12-mile Glasgow to Greenock run in 1812, and a price

likely to encourage considerable widening of the market. Rothesay went on to become the 'Clapham Junction' of Clyde steamer services. Being an old-established port supporting a substantial fishing industry, the town developed on somewhat different lines from those of the more up-market resorts such as Dunoon. It had its own more urban style of development, which was commented on in a tourist's guide in 1871:

> The numerous villas which form the edificed line along the east side of the bay are so uniform and akin in structure as to look like a handsome one-sided street ... great numbers having been built since 1813 (50).

By the 1840s, Rothesay became increasingly a favourite resort during Glasgow's Fair Week holiday, especially among the artisan class, who by then were adding their presence to the great numbers of bourgeois visitors (51). One factor significantly influencing the numbers of passengers was the introduction of the organised excursion trip, which made day trips available as never before to the artisan class. The extent to which social classes were mixing on outings to places like Rothesay is an important question, which is also discussed later in this study. Here it is sufficient to say that in the leisure steamboat services based on Glasgow, indicators suggest that social segregation was maintained by two things: the excursion, and choice of destination.

During the nineteenth century, tensions grew between the commercial interests of the middle-class entrepreneurs involved in the affairs of resorts, and their aristocratic landowners. In 1896, the Lord Provost of Rothesay, the 3rd Marquis of Bute and the largest landowner on the island, was in opposition to the town's small proprietors who, he deplored, 'sought to exploit the town's (and the island's) potential as a tourist resort serving both middle-class visitors at its hotels and two hydros, and also the day-trippers deposited by the bustling Glasgow steamer services.' (52).

In other areas there was also some perceived danger of losing traditional quality and cultural values, once access was extended to the lower social classes. On the one hand, steamer services were associated with increased prosperity and entrepreneurial opportunities. On the other, landed interests were concerned about what they implied were falling social values, as they sought to retain hereditary rights and keep domains unspoilt. The Isle of Arran, farther south, for example, had scenic and climatic attractions making it another desirable destination. This island, however, was deliberately kept from being the target of trippers. Building appropriate steamer facilities was purposely delayed by the owners, the Dukes of Hamilton, who were 'fearful of the wholesale development of the kind seen in the upper Firth.' (53).

It is difficult to identify precisely, though easy to imagine, what kind of change the aristocratic landowners (and others) were worried about. As Clyde steamer-resorts grew, the features introduced for the entertainment of visitors were more restrained than those of the big English resorts, so there were few intrusive and noisy fun-fair structures to cause resentment. But physical change in the character of some seafront areas came as entrepreneurs saw the profit to be made by catering for visitors from the lower end of the social scale. Though hotels and boarding houses proliferated for the more affluent, visitors with little money to spare would take rooms on a self-catering basis. The low standard of accommodation became notorious. At Rothesay: ' ... some of the conditions were appalling. Staffa Place was a courtyard tenement of single ends and two-apartment flats, with a communal toilet block ... Legend has it that at the time of Glasgow Fair, landlords were wont to chalk out sleeping spaces on the floor. The overflow slept rough in Skeoch Wood.' (54). It has to be wondered whether the seafront 'street' of the 1871 guide book might at some time have included some buildings better classifiable as slums than desirable seaside residences.

When the artisans of Glasgow began to invade places like Rothesay, was it the physical and commercial impact, or a more intangible lowering of the tone of the place, that offended most? It is understandable that to a resident accustomed to quieter times, or to the visitor of more refined tastes, working-class bank-holiday ebullience would be unwelcome. The strength of adverse reaction can often only be guessed at by inference from histories and guide-books; to the men of the church writing their local pieces for the *New Statistical Account of Scotland* in 1845, the very presence of Lowlanders was to be deplored. The contributor quoted below was explicit in linking together loss of moral standards, Lowland influences and the consequences of steam communication:

> A road steam carriage was tried out on the road from Kilmun, but was abandoned, as was the steamer on Loch Eck, to the great deliverance from scandal of that peaceful and interesting scene ... Steam communication ... has made this portion of the Highland national territory virtually a rural adjunct of Lowland towns, especially Glasgow; this must have an effect on the manners and habits of the native and resident population ... the general effect must be unfavourable to advance in morality, as the local population gets more like that of Lowland neighbourhoods (55).

For the aristocratic landowner, instinctive reactionary conservatism, and a determination to maintain the *status quo,* were obviously behind the fight to hold back the threatening tide of urbanisation. The impression overall is that in the earlier days, there was no great objection to holidaymakers of the right social class, while later the increasing profit and prosperity from the spending of the sheer numbers of visitors (of whatever class) reconciled localities to invasion from the city, as was implied in the support of steamboat activity by the burghers of Rothesay described earlier.

By the 1830s, the traditional quay in the heart of Glasgow, the Broomielaw, remained the central starting point for many steamboat services, especially at peak

holiday time, but the smell from the polluted river was now driving many holidaymakers into going to Greenock by other means, and embarking from there (56). For a day out, some would be content to stop at Bowling, on the north bank only a dozen miles downriver. Dumbarton was the junction for one favourite outing: the *Post Boy* steamer left Glasgow at 6 in the morning, to connect with a coach at Dumbarton. This then took passengers overland to Loch Lomond, for a cruise on the steamer *Marion* (57).

Before examining the phenomenon of working-class excursions and days out from Glasgow, it is of interest to consider just what middle-class visitors did while on holiday. Such evidence as can be found suggests that their interests included, firstly, simply the desire to be away from the grime of Glasgow and the surrounding industrial area. 'Taking the waters', and in doing so being seen to be part of the smart set, was still important. At the watering-place resort, the pattern of Regency-style social intercourse diminished, while the therapeutic elements became increasingly promoted. 'Hydropathic' establishments, like greatly scaled-up versions of Henry Bell's *Baths Inn,* were soon obligatory features of the best places, attracting the wealthy from south of the border as well as from all over Scotland.

For many with middle-class incomes, the main desire was simply to get away to a pleasant summer retreat, which might later become a place of retirement. The more active were finding restrained and respectable Victorian interests, and filling their holidays with local boat trips, fishing, walking and collecting. The appeal of the picturesque, growing since the mid 1700s, remained strong. Most walking tours described in guidebooks and 'steamboat companions' included at least one long-defunct castle or other ruin among their more picturesque attractions.

Accessibility by steamboat and nearness to the shore were important to the middle-class holiday-maker looking for a place to stay during the summer. By the early

1830s, 'marine villa' had become the recognised term used in advertising to identify houses that had the desirable feature of steamer access. 'Dunoon ... marine villa; ... close to shore ... Steamboats *almost every hour* ... and the villa has a boat ...' was typical. Opportunities for the entrepreneur were still available: ' ... villa-ground at Dunoon, on the shore near Kirn ... capable of being divided into plots ... well adapted for Marine Villas'. Some advertisements offered the prospect of a sporting holiday: 'Arrochar House to be let for the summer, with shooting moors if wanted. On banks of Loch Long. Steamboats from Glasgow ply daily in summer.' (58).

Tourism to the Highlands brought more than one kind of social change. In his *Guide to Helensburgh and Neighbourhood* of 1864, Willam Battrum identified one of its effects. 'There is no trade of any importance', he said. 'Helensburgh is almost entirely dependent on visitors for its prosperity. Visitors keep the boating and fishing population busy in summer.' (59). Tourism had grown so as to dominate the local economy, and though steamers brought seasonal work, they did so at a cost to the traditional way of life. When the Rev. John Laurie, the minister for Helensburgh, compiled his contribution to the 1845 *New Statistical Account of Scotland*, he expressed his doubts about the value of improved communication by closing with a dour comment:

> In consequence of frequent daily communication by steam, and the many respectable and well educated families that reside here during the summer months, especially, the manners and habits of the parishioners must have undergone considerable change, but it may be a question whether the more simple, and in some respects, at least, the more religious habits of the older race, have received any adequate equivalent from those of the more modern growth (60).

Other records also reveal concern about the loss of traditional occupations, as local people turned to entertaining visitors, for example by running fishing and boating trips

in the summer season. But much greater forces than holiday-making were in any case killing many local industries, such as Bute's old-established textile mills (61). Glasgow's insatiable demand for industrial labour, inducing thousands to migrate from rural poverty, was among the over-riding reasons for the old way of life of the Highlands being destroyed. It can be argued that the precariously small fishing communities of villages such as Dunoon and Malig (where Helensburgh was created) would have dropped out of existence if steamboat tourism had not arrived when it did. It is impossible to say whether the price to be paid - subservience to a seasonal tourist regime and loss of traditional lifestyle - was too high, if the only alternative was destitution.

Even more important, in the long run, was the way that steamboat tourism opened up the Highlands. The significance in this was not so much the immediate impact, but the steamboats were opening a window through which was revealed, to the middle and upper classes, a new view of the Highland landscape. Far from being a wild and inaccessible region entered only with apprehension, it was now easily reached, attractive, and full of game for the hunter and fish for the angler. Once Queen Victoria had sampled the western Highlands (which she found too wet and misty), and made a permanent summer home in the drier climate at Balmoral in the east (62), the way was open for a new type of enterprise to come in from the south, adding to the pressures leading to the clearances of the mid nineteenth century.

Some of the artisan class in the south-western Highland area experienced paddle-steamer travel at least as early as the mid 1820s. By the nature of the locality, and the very limited alternative means of getting around among the lochs and islands, operators were carrying all classes almost right from the start. One glimpse of the social cross-section then travelling by steamboat comes from the identification of passengers drowned when Bell's second *Comet* was sunk in a collision in 1825. These included a private soldier, an Irish pedlar, a Highland trader, a cook, a shoemaker, and an

unidentified old man and young woman (63). The mix of people points to an aspect of the coming of steamboats to the Highlands that should not be overlooked. Crowded excursion steamers at the Broomilaw on summer bank-holidays made the headlines, but equally important was the convenience of steamboat travel for many who would previously have found an essential journey a seriously difficult undertaking.

The social effects of this extension of the steamboat services to include, in effect, all classes except the poor, were different from those brought by middle-class exploration and villa-renting. The excursions that put a breath of fresh air within reach of many of the working classes of Glasgow brought an impact that was more immediate and occasionally more full of incident, though probably of lesser long-term consequence, overall, than the inexorable eating away of the Highland way of life.

Steamboat excursions and day-trips by the 1830s catered for a wide range of tastes and depths of pocket. On the one day, one company advertised a pleasure excursion, out on Wednesday morning and returning on the Monday, to St. Kilda, Staffa, Iona and the Giant's Causeway, at £4.4.0 (£4.20) for the round trip, with meals (four a day), at 5 shillings (25p) each. Another advertised its 'Pleasure Trip', with a 'full military band', leaving Glasgow at 6 a.m. for Lochgoilhead, returning the same afternoon, for 7 shillings (35p) cabin, and 5 shillings (20p) steerage (64).

The organised excursion was the prime factor in opening up travel opportunities for the less well paid. In the words of W. Hamish Fraser, 'initially excursions were seen as ways of providing rational, educative, healthy recreation for the "respectable" working class, as an alternative to the disorderliness of traditional holiday Fairs'. Employers saw excursions as being of value (then, and for at least a century to follow), to 'encourage identification with the company'. Firms' groups would be accompanied by bands, and even marched in processions (65). The great attraction of the low-cost steamer

excursion for the working man or woman would have been the pleasure of getting away from dreary everyday surroundings, but what was gained beyond that ' is impossible to tell, although it is reasonable to suppose that enjoyment - of food, drink and a bit of a lark - was what the great majority had in mind.' (66). Probably not very far removed, in spirit if not in detail of execution, from the leisure aim of many in the higher classes too.

Day trips by steamer soon came to be associated with heavy drinking. This was hardly surprising; there were no licencing laws to restrict alcohol consumption on the boats, and in a society brought up on the principle that no social occasion had any meaning without a drink, some of the steamboats operated virtually as floating bars. Dunoon and Rothesay were favourite destinations for excursions, but since Dunoon remained fashionable, no permanent harm seems to have been done to its reputation as a resort for the more discerning. As the century progressed, temperance movements sprang up to counter the excesses brought by alcohol, and organised their own excursions and demonstrations. The centrepiece of one of these, in Glasgow in 1841, was a 2-mile long procession of more than 5000 people, accompanied by 24 bands (67).

Preservation of the Christian Sabbath Day, and keeping it unsullied by work or frivolities, were principles enshrined in much of Scottish life in the nineteenth century, especially in the Highlands. After steamships went into service, concessions were made to allow mail to be carried on Sundays, but otherwise the quality of Sunday as a day of rest and worship had to remain sacrosanct. To have the quiet of Sunday observance broken by trippers out for the day was unacceptable. From Glasgow there was growing pressure, by 1850, to relax the prohibition; from the working-class side there was the argument that Sunday was their only opportunity to find recreation, and from the operators the desire to expand their business.

Among the early Sabbath-breaking excursions was one to Garelochhead in the *Emperor,* condemned as a 'godless pleasure steamer' because the passengers set out

'with the deliberate intention of being as happy as if it were mid week'. The local laird (another Sir James Colquhon, who had succeeded to the title in 1836), was having none of it. He had the Garelochhead pier barricaded, and set his gillies to stopping the trippers disembarking. The passengers retaliated by throwing coal, bottles and stones, and some drove off the gillies with cudgels (68).

By the middle of the nineteenth century, steamboat activity settled, in Scotland, into a period of mature stability. The design of the typical paddle steamer was well suited to cruising the lochs of the Highlands, and guidebooks and 'steamboat companions' proliferated. As early as 1846, Thomas Cook began to promote his Scottish tours by rail and steamer. By the 1860s he had built this into his comprehensive and highly organised touring system, the success of which was heavily dependent on the Scottish steamboats (69). In this period, railways were extended beyond Glasgow; as a result, steamer traffic to Helensburgh, and to Largs on the Renfrewshire coast, fell away as rail took over. At the same time, rail gave a new impetus to a new type of steamer travel - commuting between workplace and home. Having a house built for family use on the shores of nearby islands had become common practice among the wealthier businessmen of Glasgow, who with the coming of the steamboat could realise the dream of getting away from the grimly industrial city every evening. Kirn, just outside Dunoon, became a favourite location for commuters; it was built as a desirable residential area, complete with its own pier, in about 1845. Late-afternoon trains from Glasgow would take these commuting passengers to Greenock, where they embarked for Kirn. Competition between steamboats on this run was strong; captains raced with their payloads across to Kirn, the fastest vessels capturing the most business (70).

To say that from 1812 a substantial part of Scotland, until then isolated by topography and climate, was quickly and unexpectedly opened up is the very least that can be said of the impact of the steamboat. Not only did that precede the coming of the

next revolution in transport technology, the railway, but also, because of the nature of the western part of the country, the steamboat did what no railway could have done. The most celebrated evidence of its social consequences is in the image of hundreds, even thousands of day-trippers in flotillas of steamboats going down the Clyde. The scale of the bank-holiday exodus was enormous, and was still growing after the middle of the century. Glasgow Fair Week brought the great annual climax; on Saturday 18 July 1868 there were 'no fewer than 45 sailings ... [taking] a grand total of 27,500 passengers, not including those going further afield by deep-sea steamers.' (71). But this image illustrates a seasonal phenomenon, over in a few weeks. An equally significant effect of steam navigation was almost certainly the reinforcing of the view, from outside the Highlands, that here was a country available for exploitation as a gloriously unspoilt playground for the rich, conveniently also being emptied (by the Highland Clearances) of the encumbrance of its anachronistic indigenous way of life.

Not much more than a year after Henry Bell began his *Comet* services, and while early starters among his competitors were beginning to pick up summer passengers at the Broomielaw, the first paddle steamer to be engaged in a fully scheduled passenger-carrying service outside Scottish waters appeared in England. The timing of this corporate initiative, to be described in the next chapter, shows that the entrepreneur further afield was quick to see the opportunities implicit in the steamboat activities on the Clyde, once Bell had demonstrated the potential of the new technology.

Although Bell was no creative mastermind, producing the one and only 'right' design for steamboat operations in Britain, the fact is that until his vessel took to the water, commercial interest in steam navigation was conspicuously absent. Once the *Comet* had shown the way, widening steamboat enterprise followed. Before looking at the way this activity expanded from Scotland into England, it is worth examining the reasons why apparent apathy about steam navigation in 1803 changed so rapidly, after

1812, to widespread participation. If, as seems to be the case, there was a fair amount of awareness by 1803 that the goal of steam navigation could be reached without too much difficulty, why did no-one take it up for the best part of a decade?

The basis of the answers to both questions can be summed up fairly simply: new technology will be adopted only when demand is strong enough to overcome the inertia of customary practice. That necessary condition clearly did not extend to steam navigation in Britain in the years immediately following 1803. It can hardly have been that word had not got around. It is inconceivable that there was no awareness, in the business worlds of inland transport and coastal shipping, that some form of steam-powered navigation was likely to become a practical proposition. But being aware of possibilities, and experiencing a need powerful enough to warrant taking the plunge into investment, are different things. Symington's *Charlotte Dundas* had demonstrated its practicability in 1803, but potential users might well have asked about its real commercial value. It could tow barges, but without offering any immediate economic gain over existing methods of propulsion, and only at the risk of damaging the banks of canals. It was demonstrably of little use as a bulk carrier - the amount of coal fuel the early steamboat had to carry left little capacity for cargo. Prospective users would have known of these limitations. Only when a number of factors coincided, in the special circumstances in which Bell was the leading player, did pressure for change rise enough to stimulate action, and to overcome the resistance of established transport interests anxious to protect existing investments.

Is there any reason why the first successful form of steam propulsion (the *Charlotte Dundas)* should have been demonstrated in Scotland, rather than elsewhere in Britain? It is worth considering, firstly, that the primary condition for innovative work must be to do it in the right location and environment. Rapidly growing industry and commerce in eighteenth-century Britain created a demand for transport that brought a

great surge in river and canal development, and this was inspiring experimental work on methods of propulsion. As discussed earlier, some inventors such as Fourness and Ashworth in Hull may have come close to finding a workable answer. That the first successful concept for steam navigation appeared in Scotland was helped by the fact that the Glasgow area probably had as rich a concentration of engineering know-how as could be found anywhere. But the deciding factor may have been essentially coincidental, in that the man who came first, the engineer William Symington, was associated with two wealthy patrons, Patrick Miller and Lord Dundas, one of whom was an enthusiast for paddle-wheel propulsion, and the other interested in sponsoring new ideas that might be profitable for operation on canals. Otherwise, the principles of the paddle steamer might well have been demonstrated at any of a number of locations in Britain and Europe, and indeed were, without significant exploitation resulting.

The commercial break-out headed by Bell's *Comet* was a different matter. To start with, there were the unusual attributes and circumstances of the man himself. These were such as to make him keen to look for, and to work out, an improved form of transport to add to the profitability of his business. Inn-keepers in Georgian Britain were often active in running stage-coach or ferry services, but Bell was different - the owner of a hotel who was trained as a millwright, had engineering experience, and was knowledgeable about ship and boat building. He also was clear about his commercial goal, and the type of demand that would bring business. When he succeeded in building the right kind of powered passenger boat, offering undeniable advantages over more traditional methods of travel, he was able to satisfy that demand.

The second and more critical factor bringing the take-off of commercial steam navigation to this part of Scotland was the unique circumstance in which a dynamic social force was being largely held in check by geographical restraints. There was a powerful demand for personal leisure travel, coming from people grown rich in a city

polluted by industrial development, who had on their doorstep the inviting contrast of a salubrious and unspoiled region crying out to be visited and enjoyed. Frustrating this demand were the constraints on travel imposed by the topography of the area. These conditions, existing nowhere else in Britain in quite the same way, provided not only a unique incentive for seeking some better method of travel but also, when that was found, spurring the introduction and sustaining the first growth of a new type of travel market.

The third reason why it was on the Clyde that steam navigation got under way and built up so rapidly is part of the answer to a larger question, which asks what it was about Clydeside that enabled it to become, in only a few decades, the world leader in marine engineering. One important point is that the commercial steamboat originated in Scotland largely because Henry Bell had available to him, on Clydeside, the best expertise and skills in marine and steam engineering. There were many other places where the vessel could have been built, but few others as good, at that time, for making the engine, boiler and other components he needed.

In fact, Bell was working with people who represented an important part of the generative source of Scottish achievements in marine engineering. Notable examples were the Napier brothers, James and John Napier, who worked in metals at Dumbarton. The biography of James' son Robert Napier records that 'among his father's friends and customers was Henry Bell.' When Bell began work on the *Comet,* he gave the order for the boiler and castings to David Napier, whose family went on to become major forces in Scottish shipbuilding, their legacy extending to the days of the famed Cunard transatlantic liners (72). It could be said that Bell's custom was the seed corn from which grew some of the world's most notable enterprises in marine engineering, and Clydeside's contemporary expertise in engineering was one of the most important reasons why steam navigation first took off in Scotland.

3.

Notes and References

1. One noted sixteenth-century advocate of bathing was Doctor William Turner, who promoted its therapeutic attributes in Dr W. Turner (1568), *A Booke of the Natures and Properties as well of the Bathes in England and of other Bathes in Germany and Italy,* Gollen, Arnold Birdman, preface and pp. 14-18.

2. Although Scarborough is accepted as the first recognised seaside resort, the full-scale launch of seawater bathing as a summer pursuit for the *bon ton* came at Brighton, in about 1750, when the social attractions of bathing and the virtues of seawater itself were promoted by Dr Richard Russell (1687-1759). Some of his medical recommendations are set out in: Dr R. Russell MD (1760), *A Dissertation on the Use of Sea Water in the Diseases of the Glands,* London, W. Owen, *passim.* The various therapeutic and tonic qualities of seawater, with much advice on sea bathing, are presented in J. Anderson (1795), *A Practical Essay on the Good and Bad Effects of Sea-Water and Sea-Bathing,* London, C. Dilly, pp. 1-62.

3. In Henry Bell's day the facilities of spas and resorts built around the central theme of water therapy were largely standardised. Assembly rooms for socializing, entertainment and formal balls were basic requirements of the major resort, along with bathing rooms and a circulating library. Enterprising seaside towns added promenades, paved walks and lighting. The facilities and social procedures of resorts are more fully discussed in chapter 6. Information about resort facilities and guidance for visitors are given in T. Nicholls (1823), *The Steamboat Companion,* London, Thomas Hughes, and R. C. Osborne (1842), *New Margate Guide,* Margate, R. Osborne. Scottish spas were similarly built and furnished around the leisure needs of higher-ranking society; that at Airthrey, for example, included hotel accommodation and reading and music rooms, and a promenade said to 'unite the rural character of Harrowgate with the town-convenience of Cheltenham'. C. Rogers (1840), *A Day at the Bridge of Allan,* Stirling, Alexander Miller, pp. 22-4.

4. Rev. D. Macrae (1880), *Notes about Gourock,* Edinburgh, Andrew Elliot, p. 25.

5. B. D. Osborne (2001), *The Ingenious Mr Bell,* Argyll Publishing, Glendaruel. Until Brian Osborne undertook the research and writing of this comprehensive study, first published in 1995, no significant biographical account of Bell had been produced since Edward Morris, a personal friend, published *The Life of Henry Bell* in 1844.

6. Ibid., p. 13.

7. Ibid., p. 12.

8. Ibid., p. 11.

9. Ibid., p. 12.

10. Watt's reply to Bell about the use of steam engines in ships was: 'How many noblemen, gentlemen and engineers have puzzled their brains, and spent their thousands of pounds, and none of these, nor yourself, have been able to bring the power of navigation to a successful issue.' Osborne, op. cit., p. 16.

11. Ibid., p. 35.

12. Ibid., pp. 45-7.

13. Ibid., p. 47.

14. Ibid., pp. 56-7.

15. Ibid., p. 50.

16. S. Noble (ed.) (2002), *Two Hundred Years of Helensburgh 1802-2002,* Glendaruel, Argyll Publishing for Helensburgh Heritage Trust, p. 12.

17. Ibid., p. 17.

18. Osborne, op. cit., p. 208.

19. Although tipping was apparently an inescapable bugbear of stagecoach travel, records of amounts are scanty and inconsistent. The *Sussex Advertiser* of 3 August 1791 (see chapter 4) said that, on a £1 fare, the rate was 2 shillings (10p) to the coachman, and one shilling (5p) to the guard. Another report said: 'In 1798, a Board of Agriculture ex-employee reported that the whole expense ... was 6d [2.5p] per mile, and of this two thirds was the advertised fare, and one third gratuities'. The latter is quoted in W. T. Jackman (1962), *The Development of Transportation in Modern England,* London, Frank Cass and Co. Ltd, p. 344. There were added costs for such things as luggage, and it is possible that the extremely high rate of one third of the total, given in the second example, included other unavoidable extras as well as gratuities.

20. I. Maclagan (1997), *The Piers and Ferries of Bute,* Rothesay, Buteshire Natural History Society, Introduction pp. 6-9, and Part III, pp. 37-62.

21. The term 'steerage' used here and in some other references to fares did not mean the lowest level of accommodation, such as that associated with immigrant travel to America, but was used in the original nautical sense of a central or forward cabin space (where at one time the steering gear was located) (Oxford English Dictionary). In steamboats this cabin was more often referred to as the fore cabin, and provided the second-best standard of accommodation.

22. A. McQueen (1924), *Echoes of Old Clyde Paddle Wheels,* Glasgow, Gowans and Gray, pp. 15-16.

23. Lady Jackson (ed.) (1973), *The Bath Archives. A Further Selection from the Diaries and Letters of Sir George Jackson KCH,* London, Richard Bentley and Son, Vol. I, pp. 117-8. While staying at Claremont on the River Hudson, Sir George wrote (c. 1808): 'One of the curiosities we see pass daily is a steamboat, with accommodation for near a hundred passengers. It is moved by a steam engine turning a wheel on either side ...'

24. Osborne, op. cit., chapter 8, *The Hebridean and Highland Steamship,* pp. 139-86. More details are discussed in chapter 7 of this study, as an early example of coastal steamboat operations.

25. J. Deas (1876), *The River Clyde,* Glasgow, James Maclehose, p. 29.

26. Ibid., p. 29

27. Sir J. H. A. Macdonald (1915), 'Jottings of an Old Edinburgh Citizen', in J. Simmons (ed.) (1999), *Railways. An Anthology,* London, Collins, p. 66.

28. James Cleland (1816), *Annals of Glasgow,* Glasgow, James Hedderwick, p. 399.

29. McQueen, op. cit., pp. 15-16.

30. Cleland, op. cit., p. 394.

31. P. Colquhon (1806), *A Treatise on Indigence,* London, T. Hatchard, pp. 22-5.

32. Osborne, op. cit., p. 155.

33. Ibid., pp. 87-8.

34. Ibid., pp. 152-5.

35. D. Macleod (1883), *A Nonagenarian's Reminiscences of Garelochside and Helensburgh,* Glasgow, Macneur and Briden, p. 79. The nonagenarian from whom Macleod gathered material was his uncle Gabriel Macleod.

36. *The Glasgow Herald,* 15 May 1824.

37. Maclagan, op. cit., p. 87.

38. *New Statistical Account of Scotland* (1845), Edinburgh, William Blackwood and Sons, Vol. VIII, p. 608 footnote.

39. Maclagan, op. cit., p. 35.

40. Cleland, op. cit., p. 399.

41. N. Morgan and R. H. Trainer, 'The Dominant Classes' in W. H. Fraser and R. J. Morris (eds) (1990), *People and Society in Scotland,* Edinburgh, John Donald, Vol. II, p. 124.

42. Described in chapter 6.

43. *New Statistical Account of Scotland,* Vol. VIII, p. 201 footnote.

44. *Illustrated Guide to Dunoon* (1903), Dunoon, Thomas Gilchrist, Introduction.
Also 'Senex', author of reminiscences presented as 'Local Memorabilia' in J. Pagan (1851), *Glasgow Past and Present,* p. 128. The latter records that on a visit in 1778 he found Dunoon 'a Highland wilderness'.

45. Rev. M. Mackay (1866), *Memoirs of James Ewing Esq.,* Glasgow, J. Maclehose, pp. 93-5.

46. *New Statistical Account of Scotland,* Vol. V, p. 96.

47. Ibid., Introduction p. V.

48. Maclagan, op. cit., pp. 82-6.

49. Ibid., p. 91.

50. J. Wilson (1871), *Tourists' Guide to Rothesay and the Island of Bute,* Rothesay, W. C. Harvey, p. 20.

51. I. McCrorie and J. Montieth (1982), *Clyde Piers,* Greenock, Inverclyde District Libraries, p. 70.

52. Ibid., p. 77.

53. Ibid., p. 77.

54. I. Maclagan and A. Spiers (2002), *Bute: An Island History,* Rothesay, Buteshire Natural History Society, p. 46.

55. *New Statistical Account of Scotland,* Vol. VII, p. 619.

56. McCrorie and Montieth, op. cit., p. 4.

57. McQueen, op. cit., p. 25.

58. *The Glasgow Herald,* 27 March 1835.

59. W. Battrum (1864), *Battrum's Guide to Helensburgh and Neighbourhood,* Helensburgh, W. Battrum, p. 22.

60. *New Statistical Account of Scotland,* Vol. VIII, p. 83.

61. Rothesay on the island of Bute was the first place in Scotland to have an industrial-scale cotton spinning mill; at the end of the eighteenth century this employed 355 hands, the men earning from 17 shillings (85p) to 24 shillings (120p) a week. From E. Gauldie, 'The Middle-Class and Working-Class Housing in the Nineteenth Century' in A. A. MacLaren (ed.) (1976), *Social Class in Scotland: Past and Present,* Edinburgh, John Donald Publishers Ltd, p. 111.

62. A. Helps (ed.) (1868), *Queen Victoria. Leaves from the Journal of Our Life in the Highlands from 1848 to 1861,* London, Smith Elder, pp. 73-93.

63. Osborne, op. cit., p. 179.

64. *The Glasgow Herald,* 19 July 1841.

65. W. H. Fraser, 'Developments in Leisure', in Fraser and Morris, op. cit., p. 248.

66. F. L. M. Thompson (1988), *The Rise of Respectable Society,* London, Harper Collins, p. 262.

67. *The Glasgow Herald* , 19 July 1841.

68. Macleod, op. cit., pp. 80-1.

69. Thomas Cook (1861), *Cook's Scottish Tourist Official Directory,* London, W. Tweedie, pp. 22-26.

70. McCrorie and Montieth, op. cit., p. 48.

71. *The Glasgow Herald,* 19 July 1841.

72. J. Napier (1904), *Life of Robert Napier of West Shandon,* Edinburgh, William Blackwood and Sons, p. 48.

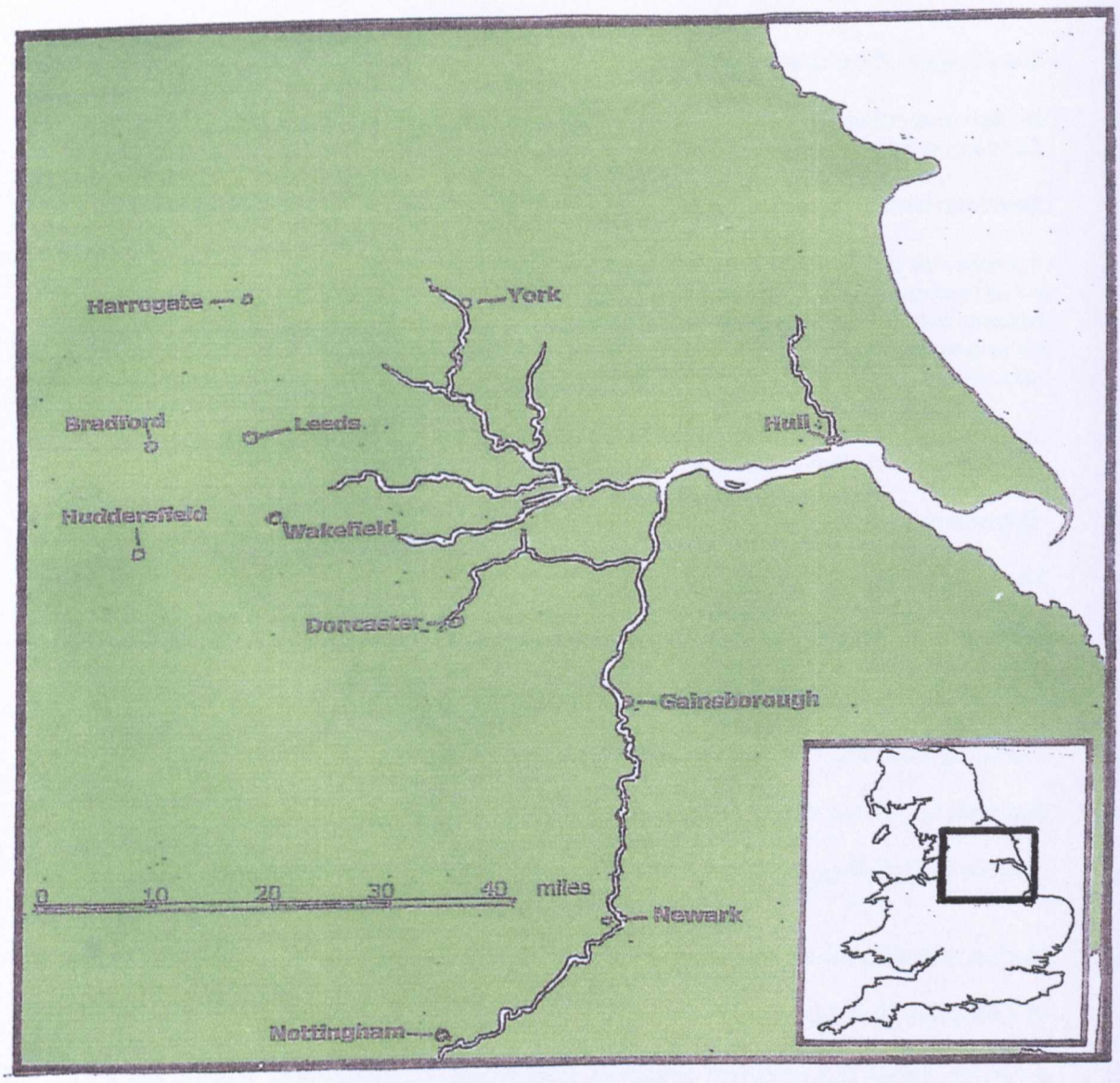

Fig. 27. The area of the north Midlands and Yorkshire discussed in this chapter 4.

4

Paddle steamer operations in the midlands and north of England

In this chapter, attention moves away from the health and leisure interests that motivated the launch of the first commercial paddle-steamer operations in Scotland, and is focused instead on the growing business-travel activity that accompanied the industrial surge of the period. The region of England on which this account is concentrated is shown in Fig. 27.

One of the first questions asked of research at this point concerns what further kind of market might exist for steamboat services, after Henry Bell had demonstrated their value north of the Border. The rapid development of passenger-carrying paddle-steamer services on the Clyde, described in the foregoing chapter, depended on the existence of unusual, in fact virtually unique, geographical and socio-economic circumstances. Situations creating the same extreme level of local demand for improved passenger transport were unlikely to be found elsewhere in Britain. If similar operations were to succeed outside Scotland, they would have to be established in areas offering at least comparably good business opportunities. Looking at the transport field in the early nineteenth century from the viewpoint of the entrepreneur, locations suitable for steamboat operations would, ideally, show not only the existence of a demand for improved, faster travel, but also a sufficiently large number of potential customers. One obvious market meeting these criteria was to be found in London, and it was not long before paddle steamers were in operation there. The Thames was already an established highway for leisure traffic, and steamboats soon competed with, and progressively replaced, the sailing vessels that took Londoners for downriver outings and holidays at sea-bathing resorts in Kent and Essex. The

introduction and subsequent great expansion of steamboat operations there are discussed in the following chapter 5.

The Thames, however, was not the first place in England to see the arrival of a passenger-carrying steamboat service. One of the earliest ventures came in June 1813, barely a year after Bell's launch of the *Comet,* when a 28-ton, 4-h.p. paddle steamer, the *Charlotte,* began a daily service on the river Avon between Bristol and Bath. This vessel, about the size of Bell's *Comet,* was built for a Bristol attorney named Theodore Lawrence, and carried twenty cabin passengers at a fare of two shillings and six pence [12.5 p] each, and an unspecified number in steerage (the forward cabin) at one shilling and six pence [7.5 p] (1). The location (one of three such instances shown in Fig. 28) should have been auspicious; the Bristol Avon had been a river navigation since the 1720s, and the Regency leisured class frequenting the spa at Bath would have represented a substantial market. However, this venture does not appear to have flourished for long; in 1818, no trace of any kind of steam-powered vessel operating in the area is to be found in the local directory, the comprehensive *Bristol Index* (2). Possibly the local gentry and those visiting the spa preferred the exclusivity of their own carriages; but for whatever reason, the Bristol location did not appear to offer suitable commercial reward until wider-ranging resort and coastal services began there in the 1820s.

There are also accounts of early steamboat operations starting up in other English locations; the probable routes of two of these are also shown in Fig. 28. One, started in 1813, was on the river Yare in Norfolk, linking Norwich to the coast at Yarmouth (3). In London, early attempts to launch steamboat services upstream of the city centre included one made by George Dodd, the steamboat pioneer whose exploits in bringing the first fully operational paddle steamer from Scotland to the Thames are described later (4). However, the first scheduled commercial steamboat operations of real

consequence on the Thames did not begin until 1815. In the meantime, the most significant entry of steamboat technology into commerce in England was being made not in London but at the town of Gainsborough, on the river Trent in Lincolnshire. This enterprise was primarily launched not for leisure, but to meet a need for improved business travel. It proved to be the starting point for an extensive development of inland paddle steamer activities, in the Midlands and northerly area of England indicated in Fig. 27. Study of the steamboat operations that started at Gainsborough in 1814 has revealed much of interest about a key aspect of inland trade and communication in England in the first quarter of the nineteenth century.

The town of Gainsborough, though a long way inland (5), had a substantial history as an inland port, and during the eighteenth century developed into a busy exchange point for industrial trade. For the merchants of Gainsborough, good personal communication with other trading locations, and above all with the seaport of Hull, was a necessity. It is clear that as soon as the capabilities of steamboats were apparent, they saw the value of acquiring one and operating it for their own commercial purposes. In 1814 their first vessel, the *Caledonia,* began a regular service, carrying passengers from Gainsborough down the river Trent to the Humber, and on to the port of Hull (6). This initiative, an undoubted landmark in the history of steam navigation and passenger travel, demonstrated for the first time in England the capacity of steam technology to transform business travel. The *Caledonia* service preceded the start of scheduled steamboat operations on the Thames. But more significantly, the *Caledonia* operation was, in its socio-economic implications, different from the leisure-oriented services that preceded it in Scotland and were soon to follow on the Thames. It was essentially conceived as a service for the business traveller, specifically to gain a commercial advantage for its operators, and as such provides a useful lead into a related exploration of an important sector of Regency and early Victorian trade and communication.

The key to Gainsborough's prosperity as a centre of trade was its location at the inland limit of tidal water on the river Trent. This allowed sea-going sailing vessels to reach it, via the river Humber, from the North Sea. A diagrammatic map showing the town's advantageous position is shown in Fig. 29. The history of Gainsborough as a port goes back to the Middle Ages, and there are records of a quay being built in 1298. In the seventeenth century, coal from Nottinghamshire mines was transhipped at Gainsborough for onward shipment to Hull. In the eighteenth century, the town enjoyed its greatest period of growth as a trading and transport-interchange hub (7).

The river Trent itself already had a long history as a commercial waterway, and was a traditionally important route for trade between the North Sea and the heart of the Midland counties. To quote from one economic study of the area, ' ... the Trent provided the channel of exchange between the west with its extractive industries - lead, coal, iron, millstone, lime - and the predominantly agricultural region of the east and south ... [and was] the route for the export of local products including hosiery and silk articles, and for the through traffic of salt, dairy produce and poultry, in return for London groceries, tobacco and flintstones from Gravesend.' (8). The value of a river like the Trent for eighteenth-century industry is well illustrated by that last-mentioned commodity. One ingredient for making the products of the Potteries region was finely ground flint, the source of the silica that gives fine china its translucency. Flints for this purpose, quarried in the chalk hills of southern England, were taken by water via the North Sea, the Humber and the Trent, to potteries in the region of Stoke-on-Trent. The route is illustrated in Fig. 30.

But it was the need for good communication between Gainsborough and Hull, rather than the transport of goods, that led the burghers of the inland port to invest in the new technology of the paddle steamer. Before the arrival of steam navigation, there was no easy way for the individual to travel between the two towns. One option was to

take a sailing vessel along the Trent and the Humber, with all the prospects of delay in unfavourable weather. The other was to go by a roundabout and expensive road-coach route (Fig. 31). The introduction of the steamboat service brought an immediate and substantial improvement in travel and an identifiable business benefit, so meeting the demand criterion for the adoption of a new technology. Almost certainly aware of the improvements in travel demonstrated by the new steam vessels in Scotland, businessmen in Gainsborough could see that steam navigation would be a profitable investment if it brought Gainsborough into convenient daily contact with Hull. The success of the innovation was described in 1843 by Adam Stark:

> ... in 1814 steam vessels gave considerable impetus to business ... daily connection has been of considerable advantage ... the tediousness and uncertainty of the voyage [between Gainsborough and Hull] by sailing packet (2-3 days, sometimes even 7 days) prevented much communication, except overland to Barton [for the ferry across the Humber to Hull], and [that route] was too expensive to be generally used. Now the usual time for the 56 miles is rarely more than 5 hours, sometimes little more than 3 hours. The extraordinary rapidity and safety with which these voyages are made ... realises more than the dreams of the most sanguine, previous to the introduction of this new power, could have believed possible. Vessels have left Hull in the morning, arrived Gainsborough by eight, sailed again for Hull and returned again to Gainsborough shortly after seven in the evening (9).

The *Caledonia* that started the Gainsborough-Hull service was built in Dundee, and had been brought down the north-east coast of England, with a call at South Shields on the Tyne on the way (10). The venture evidently paid its way, because in the following year the Gainsborough entrepreneurs put a further vessel of the same type into service. This time, instead of importing one from Scotland, they had their own *John Bull* steamer built at the Moody shipyard in Gainsborough, and this was launched in June 1815. A month later the local Henry Smith yard built the steam tug

Maria, and in February 1816 launched the passenger-carrying *British Queen*, which was also intended for service between Gainsborough and Hull (11).

Besides making travel and communication a great deal faster, these early steamboats on English waterways introduced appreciably better standards of comfort for passengers than they experienced in the stagecoach, or on the usual passenger-carrying river boats driven by sail or oar. One comment by Adam Stark was that 'generally the care and attention of the master, steward and assistants are entitled to every praise.' (12). Moreover the provision made for the welfare of the passenger - in terms of service, comfort and atmosphere – was very different from the rough conditions of much stagecoach or sailing boat travel, as a steam-packet traveller's guidebook of the time makes clear. In *The Trent and Humber Picturesque Steam-Packet Companion*, the author tells the traveller that he will find the steamboat:

> ... commodious and pleasant, fitted up for comfort ... The boat leaves Gainsborough about 8.30, therefore there is time for breakfast before starting off. If preferred, it is not unusual to breakfast aboard... Everything of the kind is supplied by the steward, with every attention to cleanliness, in the shape of ham, cold beef, and prime bottled porter etc, at moderate expense ... Where a number of fellow-travellers are congregated, the social pic-nic becomes engrossing... and the beautiful scenery on each side of the magnificent Trent may be little noticed in the midst of animated discussions on politics, farming, trading, scandal and religion.' (13).

In an atmosphere of conviviality like that (even allowing for promotional exaggeration on the part of the author), it is easy to see the trader or the merchant's representative among the passengers using the opportunity to keep in touch with the latest news and views in commerce. This image of the steamboat on the Trent suggests, in fact, that it might give the traveller four or five hours of valuable coffee-house chat, while on the move in a comfortable and congenial atmosphere. Altogether,

it might be supposed, just what the prosperous trader would regard as an appropriate extension of his business life-style.

The accommodation on board was clearly designed to meet the expectations of the more affluent rather than the lower orders. Further evidence of this is to be found in the records of the typical steamboat of this period, and in the occasional advertisement when a vessel was up for sale. One such notice appeared in the *Hull Advertiser* of Saturday 23 August 1817, inviting offers for:

> the new and beautiful steam packet *Prince of Coburg*, of 77 ft deck length and equipped with a 24-h.p. condensing low-pressure engine. The superior accommodation includes two handsome cabins aft, one exclusively for ladies, with patent water closet. A spacious fore cabin, a steward's room, and an excellent w.c. for gentlemen (14).

All this seems strikingly unlike the indifference or worse typically shown to stage-coach travellers, and a great improvement on the primitive standards of the typical river wherry. Many of those who had no option but to travel by stagecoach found the experience barely tolerable. It is true that, by 1814, some of the worst physical discomforts of stagecoach travel had been alleviated by the improvement of roads funded by the local-toll turnpike system, and by better coach design, aided by Obadiah Elliot's introduction of the elliptical spring in 1805 (15). But some features of the stagecoach journey remained as they had been in the 1790s, when a newspaper article said: 'By the common stage you are classed with company of every description, who may turn out to be disagreeable. You are paid no attention to at inns, although you pay extortionate for refreshments, and are frequently insulted by the indecent behaviour of the coachman; and besides your fare, you have a considerable sum to pay for luggage.' (16). The paper also quoted a typical instance of the rate at which passengers had to

tip: 2 shillings (10p) to the coachman and 1 shilling (5p) to the guard, on a £1.00 fare. Tips were still demanded in coach travel in the 1800s.

It is particularly interesting that, right from the start, operators of river steamboats set out to make travel in their vessels attractive. In an equally significant change, their services would be run, like Henry Bell's hotel service to Helensburgh, without servants being allowed to follow the ages-old custom of extorting gratuities from the passengers in their charge. The accommodation in most early vessels, designed around the discerning passenger's likely needs, was laid out to a standard pattern, much as that shown earlier. But in particular the move from disdain for the passenger's needs, to a new attention to service and comfort, was a remarkable change in the provision of fare-paying travel facilities, and as such it deserves investigation.

It is not difficult to see the practical value of uniformity in the basic design. A well-tried and soundly principled hull design would have been important for seaworthiness. For economy of production and pricing for the market, a standard design would be far better than making a series of 'one-offs'. More important for this study, however, is that this appeared to bring with it a statement about standards of accommodation. Exactly where the impulse for this came from, in the case of the first English services, is not immediately obvious.

When Henry Bell decided on the quality of furnishings and fittings to go into his *Comet,* he knew he had to cater for the expectations of the upper-class patrons of his hotel and baths. Whether his experience set the criteria or not, steamboat operators coming immediately after him similarly appear to have aimed their services at a social elite. Perhaps they could hardly do otherwise; people who travelled at their own expense, stayed at hotels and indulged in leisure pursuits would naturally be from the upper classes. Hotel-keepers would expect their patrons to be people accustomed to

decent accommodation. But did the same thinking apply to the early steamboats on the Trent? Operators of the innovative steam-powered craft on the river appear to have set out to provide a certain level of luxury right from the start. This not only invites conjecture about the reasons why, but also seems to confirm that both the promoters and the expected users of the early steamboats on the Trent were, if not socially aristocratic, certainly men of some affluence who expected to travel as comfortably as they lived.

There might have been other reasons for the high standards of accommodation on steamboats: it may have been thought that comfortable surroundings would reassure the nervous passenger, and that there would have been a need to entice customers away from old-established alternatives. But on the journey between Hull and Gainsborough the alternatives were relatively unattractive, and any improvement would have been welcomed. More probably the answer lies in the fact that the strongest voices influencing the quality of travel services would have been those of the merchants of the time (mostly rich and propertied), who constituted the great driving force of trade in the late eighteenth and early nineteenth centuries.

The financial interest in steamboat investment exhibited by Regency merchants is discussed at greater length later in this chapter. It is apparent that merchants were often in the majority among investors in steamboats. Moreover, there were earlier precedents for their interest; for example, it was apparently common in the seventeenth century for West Riding cloth merchants to own shares in Hull ships. By the 1750s 'only the most enterprising did so, but as they were primarily traders they had a real commitment to the improvement of transport.' (17). Similarly, although their long-range business was generally conducted by mail and by their travelling representatives, merchants would have taken an interest in standards within the travel industry. It is reasonable to conclude that it was investors like these who set the tone in

steamboat accommodation, and they would have done so to suit the standards of their own acquired way of life. An indication of this is to be seen in a pamphlet quoted in Graham Farr's *West Country Passenger Steamers* (see ref. 1). Published in 1816 in Bristol, this proposed a meeting of subscribers to a steam vessel of 70 tons at a cost of £2000. In this 'There shall be two cabins, the best ... being fitted up in an elegant manner, shall be furnished with a Library of Select Books, a Popular Magazine, Pamphlets, Daily Newspaper, Maps, a Telescope etc... [and] refreshment as may suit, but the same to be disposed of in limited quantities to ensure decorum ...' (18). All of this reinforces the impression that the style aimed at was that of a well-run gentlemen's club, with service probably expected to be of a similar quality.

With the two-cabin design went a two-level fare system, also following Bell's example. The fare reduction for passengers in the cheaper cabin was 25% in Bell's *Comet,* and varied from 20% to 40% in the vessels later plying on the journey between Gainsborough and Hull. This was similar to the practice in road travel: an 1816 stagecoach, Hull to London, gave a 40% reduction to those riding 'outside.' (19). The difference in quality of accommodation and service in the two cabins in steamboats can only be guessed at; probably the real significance was that the better cabin gave more exclusivity, and perhaps better attention from the steward. One thing appears to be certain; any idea that the cheaper accommodation was intended for any of the manually-employed 'lower orders' can be dismissed out of hand; they simply did not feature in the scheme of things. Even when rail travel started, twenty or more years later, most of the larger railway companies began by conveying only first and second-class passengers. It was 1839 before Great Western would 'agree to allow a contractor to convey some "persons in the lower stations of life" by goods train', and a year later before they started carrying them on their own account (20). In 1814 it still appeared that the great mass of the working poor were not seen as representing any part of the market for passenger-carrying travel services, and had to make their way as best they

could, on foot or by carrier's cart. The accommodation in a paddle steamer was quite evidently intended to be suitable for the tastes of the better sort.

Most business travel at this period had to be by road, and one outstanding socio-economic phenomenon of the period between 1750 and the 1840s was the enormous development of stagecoach services. There is one source from which it is possible to get some idea of its scale and rate of growth: in 1857, Parliament took stock of the revenues from taxes on stagecoach travel, and published figures of annual tax receipts from road carriage use (21). A chart drawn from these figures is shown in Fig. 32; this compares the revenue from stagecoach tax with gross public income. Apart from the obvious implied increase in road travel over the 1810 to 1836 period, one of the more interesting features is its apparent continuing growth even when national income was static. Both public income and stagecoach activity were hit by the post-Waterloo depression after 1816, but from about 1820 stagecoach revenue climbed again, while national income remained flat. Stagecoach activity also outstripped population growth; in the period 1810 to 1836 the population grew from 9.5 million to 14 million (a 47% increase), while stagecoach revenue went from £180,000 to £490,000, an increase of 172%.

It must be noted that although the chart of tax revenue is a reasonable indicator of the increase of stagecoach travel over the years, it does not necessarily reflect actual passenger mileage. One reason for this is that changes were made in the application of the tax from time to time; for example the duty of 2d per mile was raised to 2.5 - 5d per mile in 1815, depending on the number of passengers in the coach. This would have increased the total revenue, without necessarily indicating an increase in traffic. How much the total stagecoach passenger mileage amounted to can only be estimated; the transport historian P. S. Bagwell suggests that at the peak of stagecoach travel shortly

before the railway wiped out much of its market, usage was at the rate of 10 million or more passenger journeys a year (22).

This reference to stagecoach statistics is made to provide a context from which inferences may be drawn about the likely strength of the market for steamboat travel. Later in this chapter an attempt is made to assess the total numbers of steamboat passengers carried annually in the whole of Britain, although it is not possible to do more than estimate the numbers of general and business travellers (that is, outside the summer-holiday and excursion category). At this point, all that can be said is that with stagecoach travel increasing at the pace it did, particularly in 1813-16, and again in 1819-24, entrepreneurs launching steamboat services on suitable routes could be confident about the existence of a substantial demand for personal travel services.

On inland routes, passengers in some kind of business category were likely to predominate. The aristocracy had their own carriages always at hand, and rich landowning farmers, as the novelist George Eliot put it, ' ... probably thought of the coach with some contempt, as an accommodation for people who had not their own gigs, or ... belonged to the trading and less solid part of the nation.' (23). Stagecoach travel was out of the question for the working poor, so it can be taken that a high proportion of coach passengers were in the middle-range social class, and that a good many of them were travelling on business of some kind. In the more northerly parts of the country, where the development of inland waterways had boomed in order to meet the transport needs of the growing textile, metals and mining industries, steamboat services flourished as they took over or supplemented business travel by coach.

To the north-west of the point where the Trent joined the Humber, a confluence of waterways had by 1800 become one of the most important means of transport across the country. This river system, largely covering the West and East Ridings of Yorkshire,

as well as Nottinghamshire and Lincolnshire, is shown in Fig. 33. These rivers were navigable by sail to a greater or lesser extent, generally depending on tidal reach, as indicated on the map.

Extensive port and waterway improvements were made in the eighteenth and nineteenth centuries, taking advantage of the existing rivers to move manufactured products across the country from the industries of Lancashire and the West Riding to the port of Hull on the North Sea coast. The extent of river improvement achieved by the early part of the eighteenth century is broadly indicated in Fig. 34. By one of the earliest Parliamentary Acts authorising river improvement, the Aire and Calder Navigation was begun in 1698, to provide a navigable waterway linking Leeds (on the Aire) and Wakefield (on the Calder) to the River Ouse at Selby. This inland port could be reached by sea-going ships, and the volume of goods now pouring into it via the new Navigation thus gave it substantial trading status. Selby, however, was not the complete answer; on the last part of the route, seaward from there, ships still had to make a slow river journey to reach the open estuarial waters of the Humber. A more direct deep-sea link was wanted, but it was 1826 before this was achieved, when the last section of the Aire and Calder Navigation was completed, through to the Humber estuary. The amount of commercial traffic then moving between the industrial towns and the North Sea made more extensive handling facilities necessary, and a new deep-water port was built on a greenfield site at Goole (24). A simplified map of the culminating stage in this waterway development is shown in Fig. 35.

As an inland port on the Trent, Gainsborough served a more southerly part of the country. By the early years of the nineteenth century, the town had become an important entrepôt for the commerce of a large area of the East-Midlands counties. Communication with Nottingham, higher up the Trent, was important, and different services competed for custom. In June 1821, the *Nottingham Journal* published an

advertisement announcing that 'Richard Hooton and Co. ... have lately erected a Steam Packet for the conveyance of Passengers and Goods ... Leaves Nottingham every Monday and Thursday at 8 a.m., arrives Gainsborough early same evening.' (25). On the following day, the *General Coach Office* advertised 'a new light coach to Gainsborough ... leaves the Black Moor's Head [in Nottingham] every Monday, Wednesday and Friday morning at 8 o'clock, and will arrive at the Manson's Arms Inn, Gainsborough, where it meets the Steam Packets to Hull, which sail every morning.' Three weeks later a newly-named Thorpe and Marshall company (previously Samuel Thorpe, coal and coke dealer) advertised that ' a Steam Packet sails from this wharf [in Nottingham] every Wednesday and Saturday to Gainsborough.' (26). Entrepreneurs moving into steamboats were typically men already running business operations.

North from Gainsborough, steamboats were also providing through services to York. For one such, the *Countess of Scarbro'* steam packet, advertisements put emphasis on the carriage of goods as well as passengers, and provided ' more expeditious communication than was ever before offered between the counties of York, Lincoln, Nottingham, Derby, Leicester and all the south-east part of the Kingdom, generally performing the passage in 12 hours' (Fig. 36). This listed connections with other services (coaches for Manchester and Nottingham, packets for Nottingham, Newark and Lincoln, vessels to Lynn, etc). The presence of a footnote in the advertisement, saying that 'Persons frequenting Harrowgate and Scarbro' (sic) will find this a cheap and pleasant conveyance', suggests that the operators were seeking to attract passengers travelling for leisure as well as business.

Whether the traveller from higher up the Trent came by steamboat or coach, an overnight stay in Gainsborough would have been necessary if the intention was to catch the early-morning steamboat on to Hull. One writer on the history of travel in this area said: ' When steamboats were in their heyday' [in the early 1830s] ' it was

common for the Woolpack Inn to have thirty beds occupied by people who had arrived by coach overnight [presumably from Nottingham, Newark, Retford and the surrounding country] ready for the morning steam packet to Hull .' (27).

Gainsborough was granted its own Customs status in 1820, and constituted a port for the direct handling of foreign goods in 1841. But so rapidly were changes in transport technology coming in the first half of the nineteenth century that efforts to promote the town's interests were soon overtaken by events. The railway was approaching; in 1837, applications were made to Parliament for building the Hull, Lincoln and Nottingham line (28). The town's life as a Customs-authorized trading port was finishing almost as it reached its peak activity, by-passed by the railway that would soon overwhelmingly compete with inland river and canal traffic. Accounts of Customs and Excise duties taken at the town tell the story: 1844 - £73,231; 1848 - £61,412; 1850 - £51,852; and then in 1854 a fall to £13,224 (29). As soon as the Gainsborough traveller could make his business trips to Hull or elsewhere by train, the steamboat lost its relevance as a fast passenger carrier on the Trent. Nevertheless steamboats on the Trent continued to serve a local demand after rail was taking over main-route traffic; in 1844 two steam vessels, the *Columbine* and the *Lindsey,* running alternately, provided a daily service, calling at all ferry-points on the river so that villagers could shop at Gainsborough market (30) (Fig. 37). The introduction of these vessels ultimately brought social disadvantages; the gain in convenience for villagers was counteracted by a loss of village commerce.

Unlike Gainsborough, the East Yorkshire town of Hull (strictly, Kingston-upon-Hull) had a centuries-long history as a seaport of major economic importance. When local historians wrote in 1855 that 'the prosperity of Hull, in the last thirty years, has been greatly increased by steam navigation', they were referring to the coming of

steam-powered seagoing vessels in the 1820s rather than to the arrival of small inland steamboats like the *Caledonia* in 1814 (31). Gainsborough's status as a port was short-lived and, in its later years, largely dependent on steam tugs bringing sailing ships up the Trent. For Hull, by comparison, inland steam navigation was soon to be of less consequence than the extension of the new steam technology to sea-going ships. The port was one of the first in England to operate coastal services by steamboat; the introduction and expansion of these is discussed in a later chapter.

Two observations can be usefully made in a study of passenger services inland from Hull and in adjacent areas. One is that the first three or four decades of the nineteenth century seem to have witnessed an enormous increase in passenger travel. Everyone was on the move, and the advances being made in personal transport drew comment. One observer in the Hull area was a John Phillips, whose impressions in verse of a trip to Goole by steamboat were published in 1834. In a footnote, he added: 'The rapidity with which such vessels are propelled . . . and the excellent accommodation . . . with moderate charges, have induced thousands to visit Hull, who would never have ventured on the uncertain voyage of a sailing packet, or made the journey by coach.' (32). Why were so many people now making a trip to Hull, probably for the first time in their lives? Was it simply because the steamboat offered an all-round better bargain than the stagecoach? That is the basic reason mentioned by Phillips, but there is more to it than that. There was an additional motivation, easily overlooked, which is in fact another important factor accounting for the great expansion of steamboat travel. Previously, travel was all too often something that had to be endured for the sake of getting to a destination. Now, getting there could bring its own pleasure. The journey itself could be part of the satisfaction, which may have been why Phillips felt inspired to record his impressions in verse.

One fact not revealed in Phillips' account is the social class of passengers, but the mention of unusually large numbers travelling to Hull suggests that a proportion would have been of artisan class. The supposition that working people were passengers on some steamboats particularly holds good for those occasions when operators began to offer special services at bargain prices. As in other parts of the country, in fact, excursions may have been the only occasions when steamboat travel became possible for the less affluent. A local trip of that kind was offered in the *Hull Advertiser* for Saturday 31 May 1817, in an advertisement for the *Albion* Steam Packet, which 'leaves Hull Sunday next, 1st June, at 5 a.m., arrives Gainsborough about 9.30 a.m., and returns the same day. Passengers taken to Brough, for Cave Fair, for one shilling.' (33) South Cave, some fifteen miles west of Hull, had a chartered fair from 1291, and in 1817 was still an important cattle and produce market. On the advertised day-trip from Hull, the attraction would have been the extended Trinity Sunday fair, a magnet for great numbers of visitors, many staying overnight (34). It is reasonable to suppose that to link up with an event of that kind, the steam packet might have been carrying a fairly wide cross-section of social classes. It has to be remembered, however, that the one-shilling (5p) fare was a large amount even for the regularly-employed skilled working man drawing the optimum wage of about twenty shillings (£1.00) a week.

The second observation worth making in the light of early steamboat travel in the Hull area is that, in the face of rapidly increasing competition, firstly from steam navigation and later from railways, roads and road vehicles retained a high proportion of the markets for personal travel and the carriage of goods.

As soon as the passenger-carrying steamboat came into use on English rivers, some fortunate travellers had a much more pleasant journey than they had by coach, but for obvious practical reasons there was no possibility of the steamboat taking over the bulk of travel by road. One impression that comes through from advertising in this

period is that, above all, speed was important. Travellers were interested in finding the fastest means, even if this meant switching in the course of a journey from one mode to another. In one example of a cross-country journey that many evidently found worth taking, passengers from Leeds could take the coach as far as Castleford, where there was a waterway connection, travel on by small steamboat to Goole, and finally transfer to one of the larger steam vessels going down the Humber to Hull (35). As late as 1835, long-distance coach traffic was still running at a very high level; Hull newspapers carried advertising for a direct coach service from there to Manchester, and for another going Hull-Leeds-Manchester-Liverpool in one day (36).

When one of the first railway lines in the country was built, in 1834, to link Leeds across to Selby, the balance of importance in transport was significantly altered. But far from throwing in their hand, some coach operators were quick to exploit one of their advantages - their adaptability - and brought in new schedules co-ordinated with steam packet and rail services. The introduction of one new coach operating from Knaresborough was advertised in the *Hull Rockingham* in June 1835, offering a remarkably extensive itinerary. After starting by stagecoach at five a.m. at Knaresborough, the passenger would be at Mickleford in time to catch the 7.30 train to Selby, where he could board the steam packet for Hull, and if he wished could go on by steamboat down the coast to London, or across the North Sea to Hamburg (Fig. 38). Through bookings for Hull could be made at Knaresborough or Wetherby. One advantage claimed is that 'Two or three days each fortnight passengers from the North and West may have three or four hours in Hull, and return by the same route the same day.' It is hard to say whether this journey (166 miles, and in six stages for the round trip) would have been regarded as something of an endurance test in the 1830s, but the existence of the advertisement does suggest that some customers were prepared to spend a long day on the journey, for the sake of a short stay in the town. Three or fours hours in Hull may have allowed a trader to transact enough business to make the trip

worth while. On the river section from Selby to Hull, at least the steamer would have offered refreshment and relaxation, and in summer the prospect of a pleasant run along the estuary.

All existing ideas about transport were radically altered as soon as the railway arrived. Until then, the most important means of shifting goods and people from the industrial areas around Leeds across the country to the North Sea coast was the system of river navigations and the growing canal network. When the prospect of widespread rail travel was becoming a reality, the advertising, editorial and correspondence in Hull papers in 1835 presented an interesting picture of the relationships between different types of transport technology, as each was linked to or overtaken by the next. Steamboat and steamship services had become regular and extensive; the *Hull Rockingham* published in every issue, as a matter of routine, a long list of steam-packet departure times. Inland steamboats went every day to York, Barton, Goole and Gainsborough. Coastal steamships were now going regularly to Great Yarmouth, Lynn, London and Newcastle, and services were established to Dunkirk, Hamburg and Rotterdam. River-steamboat activity was probably at its zenith, but now, in 1835, had to work to sell its services in a competitive market. In the *Hull Rockingham and Yorkshire and Lincolnshire Gazette* for Saturday 23 May, for example, the operators of the daily *Calder* and *Eagle* steam packets presented their 'Great Reduction in Fares' for journeys from Hull to Goole (37). These came down to one shilling in the best cabin, which makes an interesting comparison with the one shilling for the short journey to Brough for Cave Fair in 1817. Some general fare reductions over the 1817-1835 period are shown in Appendix I, which also has figures comparing stage-coach and steamboat fares.

In Hull, the advance of rail across the country from Leeds to Selby in 1834 was seen as a serious threat to its own port status. Concern about the need for the port to

have direct rail access across to the major industrial centres of the West Riding and Lancashire was being aired editorially by 1835. This discussion also, in effect, presaged the reduction and the ultimate demise of the inland steamboat as a significant passenger carrier. On 7 February 1835 the *Hull Rockingham Gazette* carried an editorial vigorously supporting the prospect of a Selby-to-Hull railway. On 29 August, activity to set the railway-building process in motion culminated in a decisive meeting, at which a group of promoters resolved to obtain an Act of Parliament for the proposed railway, to empower more survey work, and to raise more money to ensure the project's success (38).

All attention now focused on the merits of railway transport. The attributes of steam navigation most welcomed when it arrived less than twenty years earlier had been reliability and sound timekeeping, compared with the uncertainties of sailing vessels. Now correspondents to Hull's local papers, extolling the merits of the railway, reinforced their arguments with complaints about steamboats and their 'very great inconvenience', as they were 'obliged to depart according to the state of the tide.' 'Last Saturday', one reader wrote, 'a person wanting to be at Huddersfield early on Tuesday had to go on the Saturday, as the Monday boat left Hull so late he couldn't reach Leeds in time to make the Huddersfield connection.' 'Steamboats', he wrote [he was referring to inland packets] 'at present are crowded to excess, therefore many people would travel by rail . . . [With the steamboats] there are delays through bad weather; many would be happy to pay more for a certain and timely trip.' (39). It is reasonable to sense that finance motivated this public keenness to get corporate Hull investing in rail, but such letters do also reflect the general enthusiasm with which advances in provincial travel and transport were viewed in the 1830s. His letter is also revealing of the way that Hull's commercial future was perceived, when he goes on to enthuse about the prospect of new trade resulting from the expected multiplication of steam-packet services to the Continent.

The local press noted the enormous increase in passenger travel that the first railways were already generating. The *Hull Rockingham Gazette* on 19 September 1835, in an item that would have helped to reinforce support for Hull's own railway, commented on the success of the Leeds-Selby railway line. The newspaper reported that where 400 passengers a week previously travelled that route by coach, trains were now carrying 3500 a week (40). With what may be no more than coincidental timing, the same newspaper a month later displayed an advertisement saying: 'For Sale: One Share in the Steam Packets *Leeds* and *Adelaide,* sailing between Hull and Selby. In complete repair, the *Adelaide* nearly new.' (41). The railway from Selby to Hull was authorised in 1836, and completed in 1840.

Much of the foregoing is indicative of the structural changes in transport facilities that first took place to speed inland navigation, and were later being promoted to implement rail. Change and development were geographically very apparent, and can be readily appreciated from lines on a map; but what did it all mean for society? In this part of the country, the social impact of the rise and later decline of passenger-carrying paddle steamers had great local variation, and does not lend itself to generalisations. But one certainty is that it brought nothing like the intense societal impact of the arrival of steam navigation in the west Highland area of Scotland.

Inland steamboat commerce in the north midlands of England was clearly operated more for the merchant and trader than the wider public. The introduction of the steamboat appeared to be meeting the needs of an age - of the business sector of it anyway – that wanted to save time, to get about as fast as possible, to go there and back in a day, in an atmosphere of constant activity. The second half of the eighteenth century had brought boom times for merchants, largely through the unprecedented expansion of the Yorkshire woollen industry (42). After 1801, merchants increasingly employed commercial travellers (43). These had to be on the move early and late, and

the travel business could thrive by catering for their needs. The service offered by the *Commercial Coffee House and Hotel*, in the Market Place in Hull, typified the urgency, providing 'dinners at short notice, and hot joints, steaks and chops at any hour.' (44).

How widespread and general this kind of haste was it is difficult to ascertain. The indicators preserved in primary-source records of one kind or another are inevitably in forms associated with middle-class, business-management activities rather than those of the general mass of the people. Even so, more widely-based statistical records point to increases in most forms of travel, and it is reasonable to suppose that, where services met local needs, the steamboat that began as a business carrier went on to carry some passengers in the artisan as well as the middle-class business category. The advertised day trip from Hull to the fair at South Cave in 1817 suggests that steamboat operators must have thought that it paid to fill boat space with any customers who could pay the one-shilling fare. And the daily steamboat market service set up in the 1840s for villagers along the Trent was clearly for all comers rather than being for businessmen and the elite.

Socio-economic change in north Lincolnshire and Yorkshire associated with the steamboat was not all positive. The steamboat took part in a brief surge of prosperity for Gainsborough, but its use brought loss of livelihood to villages on the Trent along its route. In the description of the steamboat's voyage in Greenwood's *Trent and Humber Picturesque Companion* of 1833, it is possible to see this local socio-economic change in the making. Along the Trent, downstream from Gainsborough, there were several villages at ferry crossing points (see Fig. 37). Greenwood says, 'At East Stockwith [3 miles out from Gainsborough] the engine is stopped, and the steamer boarded by a ferry-boat load of people going to Hull'. The vessel stops again at various ferries, 'from which the chief part of the passengers are received.' (45). Once Hull could be reached on a day-trip, it would be hard for local

residents to resist the temptation to board the steamboat and go there to shop. The impact of the steamboat on the village economy must have been rapid, because Adam Stark wrote of it in 1843, no more than ten years after the description by Greenwood, saying 'Because of the facility of communication with two large towns, almost all the business in them has declined - and their former trade almost all left, causing thereby a serious loss to the property.' (46). New technology in the form of the steamboat was bringing the start of irreversible change in the way of life of a number of communities.

The sense of a society thriving on activity and making vigorous progress comes through in correspondence in the press of the time. But how far did this extend throughout the population? It is questionable whether the inland steamboat was ever able to extend its reach to include many people of lower than better-off-artisan status, except on special holiday occasions. Alongside social questions about the spread of travel opportunities beyond the privileged upper classes, there are also other questions, of rather more commercial relevance, about the people who owned and ran the steamboat services. Who were the paddle-steamer entrepreneurs, and how did they run their new businesses?

One initial comment that can be made with some certainty is that the enterprise behind the first steamboat services in midland and northern England was almost entirely local. The first steamboat on the Trent, the *Caledonia,* was built in Dundee, but the initiative came from the place where it was to be used. Putting steamboats on the Trent was part of the attempt by prosperous Gainsborough merchants to extend their share of river trade, in competition with Hull (47). Local interests were also predominant in the later launching of more.

Investment in the pioneering days of steam navigation was commented on by the Hull antiquarian F.H. Pearson in the 1890s. 'It is a somewhat remarkable fact', he

said, 'that the capital for the first Hull sea-going steamships was provided by a number of country gentlemen and farmers, in and around Thorne [a town at the point of tidal reach on the river Don] ; the Pearsons, Whaleys, Marsdins, Coulmans, Bladworths and others ... ; it must have required very considerable courage and enterprise to induce these agricultural gentlemen to embark in the then novel and almost untried steam trade.' (48). But did they in fact remain simply farmers, or had they become more all-round entrepreneurs? In August 1828, the launch of a 'Summer Travelling' combined stagecoach and steam- packet service running between Doncaster and Hull, via Thorne, was advertised. Coaches were provided for the run from Doncaster as far as Thorne, where passengers could embark on refitted steam packets to continue the journey to Hull. The advertisement was signed off by the 'Coaching Department', which listed a number of inn-keepers, and by the 'Packet Department', comprising Messrs Pearson, Darley, Whaley and Grayburn, of Thorne (49). It is reasonable to think that two of these might be the same Pearson and Whaley whose capital was invested in Hull's first sea-going steamships. (50).

Finance based on local interests was normal in turnpike-trust and canal operations, and was certainly a common feature of early investment in the railways that were to follow soon after. Both the merchant and the local landowner could see that support for local transport initiatives would not only put dividends in their pockets, but also boost income from trade and estates as improved communication stimulated commercial activity. This principle was demonstrated in the financial support that Henry Bell sought and obtained from local Highland landowners when extending his services up to Fort William (51). For the Gainsborough merchants, the motivation was defensive as well, aimed at helping to ensure that profit from the new technology would be theirs, rather than allowing it to be taken by investors from Hull. One interesting point emerging from this is that it casts some light on the extent of country-wide awareness of developments being made in technology, and the speed of reaction to

changes that might be of commercial interest. The *Caledonia's* first voyage on the Trent was in October 1814; in order to have the vessel completed and brought down the coast from Dundee by then, the decision to acquire it must have been made something like a year earlier, and possibly in 1813. In the summer of that year, only the first few steamboats to follow Bell's *Comet* were appearing on the Clyde. Somehow, the merchants of Gainsborough knew enough about the developments in steam navigation in Scotland to be confident about acquiring a steamboat, and putting it into service before their rivals in Hull launched one of their own.

Shipping intelligence carried in provincial newspapers in the early 1800s appears to have been only of local arrivals and sailings; Bell's advertisement seems to have been the first intimation the world had of his venture. Yet from the time-scale, it has to be supposed that merchants and traders must have known what was going on - in fact the potential of steam-powered transport must surely have been a frequent topic of conversation whenever businessmen were together. The reason for dwelling on this point is to try to get an understanding of the extent and speed of communication in the early years of the nineteenth century. Knowing what was going on, and knowing it faster than rivals, would have been vital for a merchant's prosperity. How was it done? Establishing a sound relationship with a network of trading correspondents was a vital part of the merchant's method of working, and this would have been a first line of communication. Word-of-mouth information carried by travelling representatives would also have given the businessman an updated picture of what was happening. Without such swiftly available intelligence, it is difficult to see how the merchants of Gainsborough could have been ready to make their move as soon as they did.

The immediate value of the new steamboat service for Gainsborough businessmen was that it made travel and communication with Hull (and beyond) much faster and more reliable. But quite apart from that practical benefit, putting money

into owning and running a steamboat appears, in the first few years, to have been a highly profitable investment, from which an annual return of thirty per cent on capital invested, or even more, would have been expected (52). Profitability at this level deserves detailed examination.

As a starting point for looking into this, an advertisement in the *Hull Rockingham Gazette* in July 1835, when river steamboat activity was at its most vigorous (though it was then already under threat from rail), is of particular interest. This offered 'The whole or any part of eighteen 64ths in the fine Steam Schooner *Albatross,* now plying between Goole, Hull and Yarmouth. The first nine months she run [sic] in this trade there was a Dividend of £18. 15. 2. per share. Which is equal to about 30% per annum profit.' (53).

Although there are inevitably some unknowns involved (for example, the nine months quoted might have been years earlier), if the dividend figure can be accepted, it is not difficult to work out that a profit of something like the amount claimed would be possible, at least during that particular time. To make an analysis based on this, it is necessary to start with an assumed figure for the capital investment required.

By tradition inherited from the raising of money to build a sailing ship, financial holding in the capital cost of a new vessel was usually divided into 64 equal shares, as mentioned in the advertisement. If the total investment is 'guessed' at £4000, then one share (£4000 divided by 64) would have cost £62.50. If this returned £18.76 in the nine months as claimed, or £25.01 in a full year, the return would be a substantial 40%. If the total capital cost is guessed at £5000, the return on the same basis would be over the 30% claimed, while a 1/64th investment in a £6000 boat (£93.75) would still return a very respectable 26%. Actual returns may have been considerably higher; in 1818, the Gainsborough United Steam Packet Company was said to be clearing as much as 40 to

50% (54). Unlike the railway developer, the steamboat entrepreneur had no worries about finding the capital cost of land, track and other structural necessities. A boat and access to a suitable waterway were virtually all he needed to make a start on an enterprise with substantial prospects of profit.

Before commenting further on the profit likely to be available to investors such as the businessmen of Gainsborough, it is appropriate to examine other evidence of the costs involved in acquiring and running a typical river steamboat. Firstly, some examples of the capital cost:

In March 1816 the 73-ft, 20 hp *Albion* was built at the Glasgow yard of John Smith and Son for a total of £3450 (hull, engine, machinery, and upholstery and furniture) (55). In January 1825 a vessel for the Loch Lomond Steamboat Company had a contract price of £683, plus £1000 for the engines. To this must be added a guess at the price for fitting out, which could amount to a further £1000, making a total of £2683 (56). Another source puts the total cost of a 'typical Clyde steamboat' of 1816 at £2300, comprising the hull at £700, engine and machinery £1000, upholstery £70 (which seems a very low figure compared with others) and 'contingencies' at £330 (57). These figures are for vessels of the basic 'first generation' type, and capital values rose substantially as larger and more powerful vessels were built. When Henry Bell was raising money for vessels larger than his *Comet* for coastal service, he talked of costs in the £4500-£5000 range (58).

Was the generous return on investment of 30% or more sustainable for very long? It can be assumed that the first two or three steamboats on the Gainsborough-Hull run would be well patronised and thus profitable, but it is clear from anecdotal evidence that in most localities competition soon pushed down fares, with operators being in the familiar position of having to offer bargain-price incentives in order to maintain

turnover. Evidence for examining operating figures in areas outside London is scanty, but the details that can be found for services on the Thames, and which are set out in chapter 5, give a reasonably clear financial picture for operations in the highly competitive conditions following the early pioneering stages. The situation for these can be summed up by saying that if an operation was run with competitive vigour, then a good return was possible. But this really meant – in London anyway – packing passengers aboard up to and possibly beyond the legal limit, and maintaining a punishing schedule. There is no readily available evidence to suggest that circumstances like those on the Thames were to be found in the provinces. Overall, it is reasonable to believe that investing in steamboats on inland operations was likely to be comfortably profitable for the first decade or two, but once the railway was beginning to attract the passengers, it was time for the investor to put his steamboat shares up for sale, as the advertiser from Hull was doing in 1835.

The local nature of the ownership of inland steamboats outside London continued a tradition long associated with small coastal and river sailing vessels (59). In many cases, the ownership of cargo-carrying ships differed from that of passenger vessels because of additional interest in the commodities carried. According to Armstrong and Bagwell, nearly a third of owners [in the 1830s] were merchants or manufacturers involved in selling or processing cargoes (60). In passenger-carrying river steamboats, there was always an obvious advantage for the coal merchant to have a financial interest (as in the case of the coal and coke trader in Nottingham, page 97). All merchants, it can be assumed, were looking primarily for profit, but some may have been credited with bringing a certain amount of associated social benefit. The guidebook *The Companion for the Steam Packet,* describing excursions from Bristol in 1824, was dedicated to George and Samuel Lunell, merchants, 'to whose spirit of enterprise Bristol is principally indebted for the first steam-packet established from this port with permanent success ...' (61).

One of the most difficult questions still to be resolved is that which asks how many people, and of what social classes, were able to make use of steamboats. A look at income levels is useful starting point. J.F.C. Harrison, in *Early Victorian Britain 1832-51*, suggests something of a benchmark when he says that a London labouring man in 1841 'might just support himself, and a wife and three children, on regular earnings of 15 shillings [75p] a week' (62). At that income level, the fare of one shilling [5p] would perhaps make a steamboat trip a rare treat. Having a saleable skill and some perks would have made an enormous difference; in 1815 the *Kentish Gazette* advertised a position for a carpenter at 50 guineas (£52.10) a year, plus a rent-free house, free beer and firewood (63). The figure of a pound a week or £50 a year for an artisan appears remarkably consistently over at least two or three decades from 1800. Clerks and teachers had to manage on £60 a year, while some of the most skilled artisans could earn more. Anthony Trollope is known to have started his job as a Post Office clerk in 1834 at £90 a year (64). The majority of the people classifiable as 'lower middle class' earned perhaps £150 a year.

To keep figures of spending in perspective, it should also not be forgotten that enormous numbers of the destitute and manufacturing poor in the early 1800s were more concerned with fending off starvation than finding money for travel. In March 1817, the Parliamentary debate on the distress of the poor was reported in the *Hull Packet* (65). In August 1816, one third of 3360 Yorkshire cloth workers were unemployed. Of Birmingham's population of 84,000, 27,000 were parish paupers. With the Napoleonic wars then ended, armament workers' pay was down to 7 shillings and 6 pence a week. (The impact of this post-Waterloo depression shows up in the graph of stagecoach travel in Fig. 32). Travel for the vast majority still meant going on foot or, for the more fortunate, riding in a carrier's cart.

Nevertheless, steamboats were apparently filled, and if by no-one below say small shopkeeper class or the equivalent, then the middle classes were perhaps indulging a long-pent-up need to travel. The 1835 Hull letter-writer used complaints of steamboat overcrowding to support his arguments for the Hull-Selby railway. Was there sufficient general spending power to warrant an assumption that steamboat travel was becoming available to large numbers of the working population? Outside regions such as the Firth of Clyde and the Thames, where steamboat operations formed clearly definable summer-holiday patterns, this is not easy to assess. But evidence of the strength of popular desire to enjoy leisure opportunities suggests that many would find the means, somehow, to put money aside for the occasional trip by steamboat. Moreover, it does appear that, after remaining unchanged during most of the eighteenth century, real wages began to move upwards from about 1815 (see Fig. 20), possibly allowing the humble workman to have a little disposable income (66).

In trying to assess the class of passengers, some references must be treated with caution. Greenwood's *Picturesque Companion* for travellers on the Trent from Gainsborough to Hull, for example, is obviously aimed at the middle-class traveller, and the description of the convivial atmosphere, written to suit that market, conveys the impression that the passengers are, by and large, all middle-class too. In practice, there were probably numbers of rather less affluent travellers using the service, especially among those boarding at the intermediate ferry-stops, even though these might have to find somewhere to sit on deck rather than in the cabin. The Gainsborough 'market special', laid on in the 1840s so the people of Keadby and other villages could go to market, was clearly not intended exclusively for the wealthy. By then, however, operators probably had to resort to local bargain pricing, to retain some custom as rail took over for longer journeys.

As soon as the railway companies began to carry large numbers of passengers, they went rapidly into keeping and publishing statistics. Unfortunately no similar figures of passenger numbers appear to have come from the many smaller operators of inland steamboats, who were running a variety of local services. Attempts have been made, notably by Jack Simmons, to put together estimates of the numbers carried by waterway and estuary steamboats, but as he says, the assembled figures can only be broad estimates for the whole of Great Britain, including Ireland, and in particular including the great amount of summer-time use in Scotland and on the Thames (67). He arrives, though with considerable reservation, at a total figure of 85,000 passengers conveyed by steamboat daily in the 1830s. The evidence on which this is largely based comes from a projected figure, put to Parliament, of the likely revenue to come from a tax of ½ d for a journey of four miles for every passenger carried in the UK. But this would have included the great numbers being conveyed, in the summer months, by the special leisure-market services on the Clyde and the Thames. No realistic figures can be extracted from the total to show how many passengers used the river and waterway services elsewhere. In any case the estimated figure of 85,000 a day is not, as Jack Simmons emphasizes, easily reconciled with Scottish figures of usage in the Glasgow area, which suggest a much lower total.

The estimated figure for taxation purposes comes from the evidence of Richard Smith, the Assessor of Stage-Coach Duties, to a Parliamentary Committee in 1837 (68). Extrapolating his figures to an annual usage gives totals that must suggest that he was grossly over-estimating. Even a safer figure of 50,000 a day makes about 18 million journeys a year, which seems much too high. Approaching the question from evidence of actual usage, such as the totals of journeys made on the Thames to Gravesend and the Thanet towns, suggests that the London total might realistically be 3 million a year (69). Allowing 2-3 million for Scotland (which again is probably too high) a figure of the order of 6-8 million journeys a year, roughly equivalent to 25,000 a day overall,

would be reached. Of these, possibly a million or so might have been in the general-purpose and business-travel category, operating on the river navigations of the Midlands and north.

Firm evidence of the social class of passengers is equally scarce, and arises only when events lead to detailed newspaper reporting. In June 1837, the steam packet *Union*, about to depart for Gainsborough, blew up at the Hull quayside. The *Hull Rockingham Gazette* listed those who lost their lives. They included a 'young man who was setting up a business near Gainsborough' ; a brewer; another man who 'came to look after property' ; a bricklayer/publican; a shopkeeper; another publican; a woman who sold fruit on the boats; a Methodist minister; and a cabinet-maker. This cannot be taken as necessarily representative of all the passengers, but the list does look like a small cross-section of the middle and lower middle class (70).

In concluding this chapter, the first thing to be said is that whereas the arrival of steam navigation in Scotland was associated with identifiable local socio-economic and cultural changes, no comparable consequences - that is, on anything like the same scale - can be attached to the introduction of the passenger-carrying steamboat in England. However, it has to be noted that where a steamboat service did bring numbers of people their first-ever opportunity to travel, as at the ferry-villages along the Trent, the loss of business for local traders gave a clear illustration of the extent to which improved social facilities could bring socio-economic change.

One of the most interesting things about the introduction of inland steamboat travel in the midlands and northern England is the way that it brought fundamentally improved standards of service and accommodation. The most convincing explanation for this change comes from the fact that the new steam services were the initiatives of merchants and businessmen, who could set standards of service at levels appropriate to

their own expectations. Until the introduction of steam navigation, almost every aspect of travel was on a master-and-servant basis, with those on the supply side – the inn-keepers, coachmen, ostlers, chambermaids – setting the operational standards, and generally selling services at the lowest level of quality the market would tolerate. Although the inn-keeper might rise, as some did, to become owners of very substantial businesses (71), the whole stagecoach system grew essentially from enterprise on the part of people operating in the role of servant, viewing the customer/supplier transaction accordingly.

It is clear that this underwent a radical change when the passenger-carrying paddle steamer went into commercial operation. Now the investment and the initiative for setting up services came from merchants and businessmen, who would take a different view of standards of service and accommodation. The first man to make this change was Henry Bell, who not only furnished his *Comet* for the customer's comfort, but also made it clear that servants and crew would not be seeking tips from his customers. Though Bell was himself in the position of an inn-keeper, his career and status meant that he would have seen his operation more from the viewpoint of an executive and businessman than that of the traditional servant. It is contended that this behavioural change came when the ages-old custom of passenger travel being in the hands of a servant class was superseded by one in which the initiation, ownership and operation of a category of passenger transport came under the control of merchant-class investors, who would expect standards of accommodation and service to be at the level of their own life-style.

The services described in this chapter differed in important commercial aspects from those in Scotland. For the most part they were set up for business purposes, were confined to limited parts of the country, and had a limited active life span. By 1835 most were obsolescent as railways spread throughout much of the country. By contrast,

most early Scottish steamboat services were launched for leisure purposes, and many took on a role and served in areas where railways could not go. Moreover, Scottish operations were lasting; by the mid-forties paddle-steamer services in Scotland were reaching their greatest period of activity, in tourism and as the mainstay of improved communication around the islands of western Scotland. On the Thames, and at appropriate seaside resorts, paddle-steamer services similarly moved for a time into a settled leisure role, and retained their popularity into the later Victorian years. By then, the business-passenger transport once provided by the steamboats of Hull and the industrial West Riding had long been replaced by the railway train.

A further thought revealed in this survey is that, where its use was practicable, the inland steamboat not only made travel more convenient, but also brought, for the first time, the prospect of a journey that could be a pleasure in itself. John Phillips wrote of the 'thousands' coming into Hull 'who would never have done so before steamboats'. Whatever their personal or business motivation, it is certain that for many the steamboat brought the pleasure of enjoying the boat-trip for its own sake. This should not be overlooked as a factor in the spread of travel across a wider social spectrum than might have been the case if purely practical benefits had been the only motivation. The theme of socially widening travel opportunities has underlain much of the discussion in this chapter, which has also raised a contrasting question in discussing the reasons for the improvement in the quality of accommodation and service that characterized the introduction of the passenger-carrying steamboat.

4.

Notes and references

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4. See chapter 5.
5. Gainsborough is approximately 38 miles as the crow flies from Hull, and about 40 miles from the North Sea coast; the distance between the two places by water, along the river Trent and the Humber, was estimated by the local historian Adam Stark to be 56 miles.
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11. Beckwith, op. cit., p. 99.
12. Stark, op. cit., p.220.
13. J. Greenwood (1833), *The Trent and Humber Picturesque Steam-Packet Companion*, Gainsborough, J. Drury, p.25.
14. *The Hull Advertiser*, 23 August 1817.
15. G. A. Thrupp (1877), *The History of Coaches*, London, Kirby and Endean, pp. 110-4. The elliptical steel spring, which made coach travel less of a physical hardship, was invented by Obadiah Elliot and came into use after 1804.
16. W. C. A. Blew (1894), *Brighton and its Coaches*, London, John C. Nimmo, pp. 46-8. The newspaper quoted was the *Sussex Advertiser and Morning Chronicle*, 3 August 1791.
17. R. G. Wilson (1971), *Gentlemen Merchants. The Merchant Community in Leeds 1700-1830*, Manchester, Manchester University Press, p.137.
18. Farr, op. cit., p. 61.
19. Henry Bell (see chapter 3) advertised his pioneering service at 4 shillings [20p] in the best cabin, and 3 shillings [15p] in the fore cabin. A typical Gainsborough-Hull journey was priced at 5 shillings [25p] and 4 shillings [20p] respectively in 1817, and a stage-coach from Hull to London in 1816 cost £2 inside, and £1. 5. 0. [£1.25] outside. *Hull Advertiser*, 31 May 1817 and 6 April 1816. See also Appendix I.
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36. *The Hull Rockingham Gazette*, 14 November 1835.

37. Ibid., 23 May 1835

38. Ibid., 7 February and 12 September 1835.

39. Ibid., 12 September 1835.

40. Ibid., 19 September 1835.

41. Ibid., 17 October 1835.

42. Wilson, op. cit., pp. 111-2.

43. G. Jackson (1972), *Hull in the Eighteenth Century*, London, Oxford University Press, p. 115.

44. *Hull Rockingham Gazette*, 18 July 1835.

45. Greenwood, op. cit., p. 26.

46. Stark, op. cit., p. 221.

47. Beckwith, op. cit., p. 99.

48. F. H. Pearson (1896), 'Notes on the First Twenty Years of Hull Steam Shipbuilding' in *The Early History of Hull Steam Shipping*, Howden, Mr Pye Books, p. 2.

49. *The Doncaster, Nottingham and Lincoln Gazette*, 8 August 1828.

50. See also chapter 7.

51. See chapter 3.

52. The returns on capital becoming available as the revolution in transport systems took hold were immense compared with previous opportunities for investment. In the earlier part of the eighteenth century, one of the few things a man with money could safely invest in, apart from land, was the Consol (Consolidated Annuity), a government security with a nominal rate of interest of 3%. The great surge in Acts for inland navigations in 1789-97, where the investment value came from dividends on operational profit rather than interest, introduced spectacular levels of return.

53. *Hull Rockingham Gazette,* 25 July 1835.

54. Beckwith, op. cit., p. 99.

55. R. Buchanan (1816), *A Practical Treatise on Propelling Vessels by Steam,* Glasgow, R. Ackerman, p. 35.

56. D. Macleod (1889), *Loch Lomond Steamboat Companies,* Dumbarton, Bennett and Thomson, p. 43.

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59. See chapter 7.

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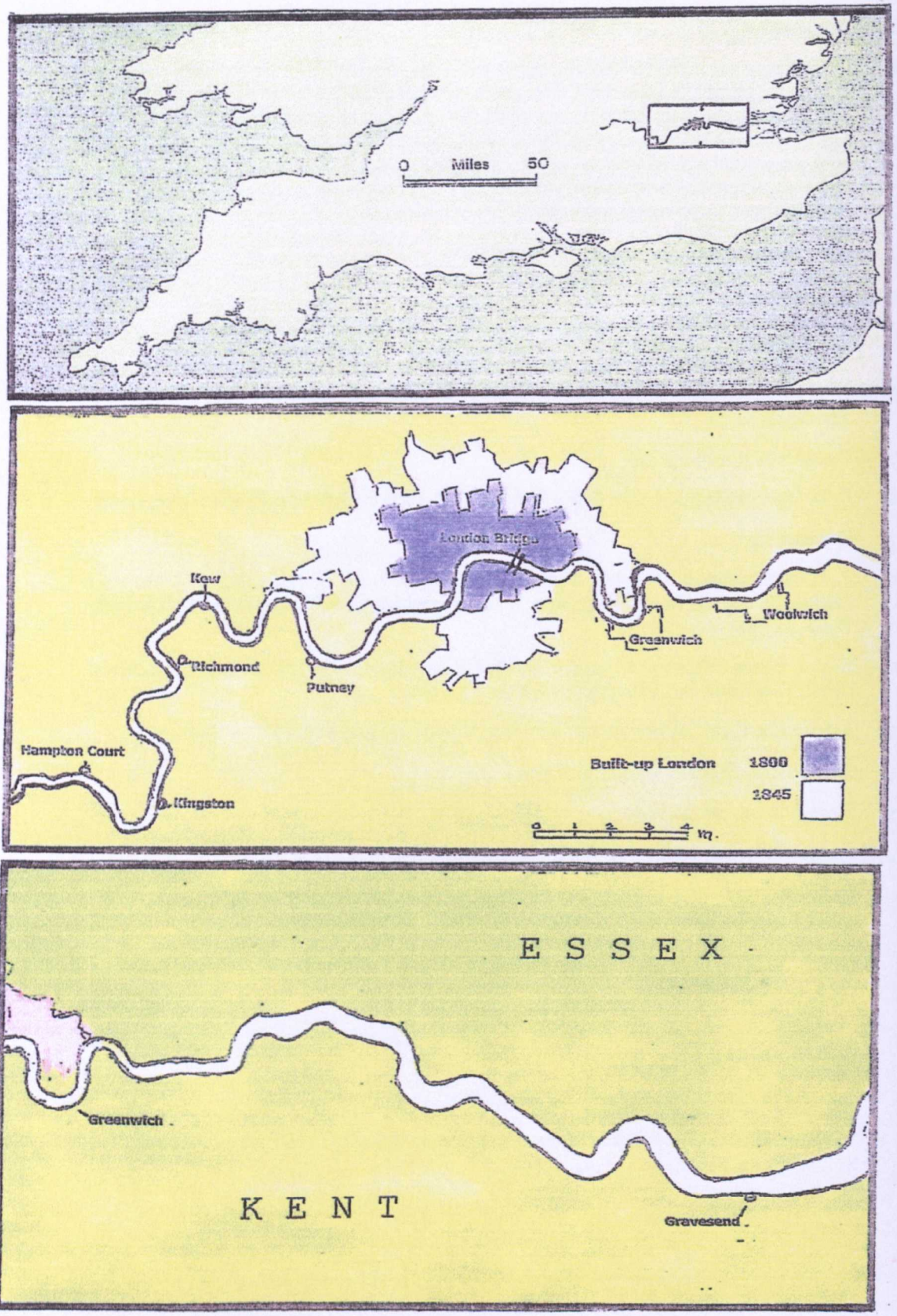

Fig. 39. That part of the river Thames on which the steamboat activity discussed in this chapter was centred. All rights to carry passengers on this stretch of the river, downstream as far as Gravesend, were held by the Company of Watermen and Lightermen of the River Thames. The central London areas sketched in this map give an indication of the size and the amount of outward growth of the city during the period under discussion.

5

Steamboats on the Thames

After the new technology of steam navigation had demonstrated its passenger-carrying capabilities and its potential for profitable operation in Scotland, it was virtually inevitable that London, with its vast population and prodigious commercial activity, would attract entrepreneurs interested in setting up similar passenger-carrying steamboat operations on the Thames.

At the beginning of the nineteenth century, no place in Britain, or elsewhere in Europe, had a concentration of commerce in water-borne personal travel to match that of London. As many as 3,000 oarsmen competed for custom in carrying passengers across and along the river, and at least as many were engaged in moving merchandise. Sailing boats by the score took Londoners downriver, on business and for leisure, to Thames-side towns and to resorts in Essex and Kent. The amount of activity involved in providing Londoners with one of their most important means of travel held out the prospect of substantial returns for investors in steam navigation.

The change to steam for passenger travel on the Thames, when it came, developed at a remarkable rate. The first fully operational and scheduled steamboat service on the Thames was launched in 1815. By the 1820s, steam had largely ousted sail on the longer leisure runs down river. By the mid 1830s, paddle steamers thronged the river in summer, and the annual total of leisure passengers carried by steamboats rose to well over half a million. By the 1840s, the last vestiges of man-powered personal transport on the river had all but disappeared, and a new socio-economic phenomenon - commuting between home and the office – was appearing in the form

of steamboat services set up to carry those who worked in the counting-houses of the City to and from their places of work.

The period covered in this chapter is from 1815, when effectively the first commercially important steamboat operations on the Thames began, to 1850. The relevant area of interest is from the City downstream as far as Gravesend, and to a limited extent upstream roughly to Windsor. On this length of waterway, which is outlined in Fig. 39, the commerce of passenger-carrying was by long tradition in the hands of the Company of Watermen and Lightermen of the River Thames. The breakdown of that body when it encountered the unprecedented competitive force of steam-powered passenger transport forms an important part of this account.

Gravesend, some twenty miles from central London, traditionally marked the boundary of jurisdiction of the Port of London, and was thus the city's most important check and assembly point for incoming and outbound shipping. It was also one of the Londoners' favourite down-river resorts, attracting great numbers to the leisure amenities developed there. The river Thames was also used by many hundreds of holiday-makers as a summer highway to the seaside resorts of the Kent and Essex coasts, such as Margate and Southend, but steamer operations to these resorts are not covered here. These are discussed, along with services to other watering-places around the coasts of England and Wales, in chapter 6.

When the first steamboats arrived, the Thames was, as it had been for centuries, a major thoroughfare and provider of employment. According to one commentator, by the seventeenth century some 40,000 people, from masters of sailing craft to river-bank scavengers, depended on the river for their living (1). One of the noted sights of London, typified by the scene shown in Fig. 40, was the great number of rowing craft on the water, ferrying people about the Thames. Figures

assembled in 1800 by one authority suggest that there were then some three thousand men hiring out their services for carrying passengers, and a similar or possibly larger number employed in carrying freight (2). The rules of their trade were strict; only oarsmen qualified by apprenticeship and holding the licence and badge of The Company of Watermen and Lightermen of the River Thames (see Fig. 40) had the legal right to work on the river. The title of Waterman applied to those carrying passengers, while the Lighterman handled merchandise. One immediate consequence when steamboats arrived was conflict with the Company's monopoly. A direct battle for rights was avoided, but once the power of steam was at work, the eventual loss of livelihood for all those who made their living by their skills in rowing passengers about the river was inevitable.

Although there are a number of accounts referring to steamboats being tried out on the Thames in the late eighteenth century (3), the first paddle-steamer operation recognisable as bringing the start of commercially viable passenger-carrying services began in January 1815. This came with the arrival of the steam vessel *Margery,* which had been brought down the east coast from Scotland. As soon as this novel vessel was on the river, the enterprise came up against the regulatory controls of the rowers' guild. Exercising its sole right to carry passengers on the river, the city's Company of Watermen took proceedings, under the Watermen's Act, against the captain of the steamboat. In order to keep within the law, the owners of the *Margery* responded by appointing a Mr John Pashley, who was a Freeman of the Watermen's Company, to run the vessel (4). On this basis the steamboat was permitted to carry passengers, and its first fare-paying journey, with a Captain Cortis in charge, began at Wapping Old Stairs at ten a.m. on Monday 23 January 1815. The advertised fares for the conveyance of passengers and luggage to Milton, below Gravesend, were four shillings (20p) in the chief cabin, and two shillings (10p) in the fore cabin (5).

As things turned out, this vessel herself was no great threat to the oarsmen. The author of the Watermen's historical record said: 'The *Margery* appears to have been a poor little affair, as she never worked three weeks at a time without repair.' (6). In fact, the vessel's troubles were evidently not terminal; after some difficulties she was taken out of service, but is believed to have been taken to France for operations there (7). Soon after, a more robust threat to the livelihood of the watermen arrived in the form of a larger paddle steamer named the *Thames*. By the midsummer of 1815, fully commercial passenger-carrying steam navigation in London began in earnest.

The *Thames* was a Clyde-built vessel that had been sailed down from Scotland by a professional sailor named George Dodd. Dodd had an engineering background, and had probably served in the British Navy (8). He had already made an earlier start in steam on the Thames when in 1814 he set up a passenger-carrying service running upstream from central London, employing a Yarmouth-built 62-ft (19m) paddle steamer named the *Richmond*. This craft was evidently still in operation in June 1817, when a report in *The Times* said it had blown up, and that the boat's conductor, a Mr Arnold, was killed and two labourers injured. Dodd disputed part of the story, saying that although three men were scalded (and recovered), Mr Arnold was not hurt (9).

In the spring of 1815, Dodd was commissioned to go to Scotland to acquire, on behalf of owners recorded as Cheesewright and Company, a steamboat suitable for passenger-carrying operations on the Thames. The vessel he bought was the 90-ft (30m) paddle steamer *Duke of Argyle,* which was built in 1814 by J. and C. Wood, the builders of Henry Bell's *Comet*. Unlike the earlier *Margery,* which was narrow enough to go through the Forth-Clyde canal and so could be sailed down the east coast, Dodd's vessel had to take the longer and more exposed western route, past the Welsh coast and round Land's End.

Dodd's voyage to London in this vessel, re-named *Thames,* proved to be something of an epic in steamboat history, and a successful demonstration of the sea-going capabilities of the paddle-steamer concept. An eye-witness account of the journey was recorded by one Isaac Weld, a topographer born in Dublin in 1774. Weld was an experienced traveller who had already made a name for himself as a surveyor in North America, and was clearly competent in setting down his impressions in writing (10).

He began his narrative of the voyage with some comments about the vessel itself. The *Thames,* he wrote, 'seems bigger' than expected from its 14ft 6in (4.5m) width, because of a projecting gallery each side. He was struck by the elegance of the fitting-out of the higher-class cabin aft, which had 'sofas, Grecian chairs, mirrors, Brussels carpet, and a "library" of about sixty books. He is surprised to find 'no disagreeable noise' from the steam engine, and that he can write comfortably in the cabin – 'the pen vibrating, but not affecting the writer.' (11).

The *Thames* set out from the Clyde with a crew of eight – a mate, an 'engine worker', a stoker, four seamen, and a ship's boy. The route chosen (see Fig. 41) was to cross to Ireland, to proceed down the Irish coast to Dublin, and to go further south before striking across to the Welsh coast. A test of the boat's capabilities came early on, when in the crossing from Scotland to Ireland the vessel was caught in rough weather on a lee shore. Dodd was able to show the advantage of steam propulsion by lowering all sail and pulling safely away 'into the wind's eye' – an incident that was the subject of the drawing shown in Fig. 42.

Weld and his wife joined the steamer in Dublin. During the voyage, he was impressed by the vessel's good weathering qualities. The action of the wheels, he said, prevented rolling; the vessel never plunged on the wind, and 'glided like a sea-bird'. In a side wind, 'the coverings of the wheels act as buoys', though he found the sudden

compression of air in these when hit by a heavy wave was at first alarmingly noisy. During the whole voyage, the vessel 'pursued a dry course.' (12). These comments are possibly the only recorded first-hand impressions by an experienced traveller of what it was like to be at sea in an early paddle steamer. They make a useful contribution to our understanding of how fare-paying passengers might have reacted to their first ventures aboard these novel craft. Especially for those all too familiar with the weather-dependent vagaries of the typical small sailing vessel, the stability of the paddle steamer and its apparent capacity to cope well with adverse weather would have been reassuring.

Further evidence that helps in visualizing the place of steam technology in the public's mind comes from Weld's descriptions of local reactions to the arrival of the steamboat. On the one hand, it is clear from what we know of Dodd's earlier steamboat experience, and the fact that he went to the Clyde to find a suitable craft for London, that there was a good deal of commercial awareness of developments in steam propulsion. One the other hand, very few people, of whatever rank, would have seen any steam-propelled vessel, or even have much idea of what one would look like.

Three episodes on the journey illustrate what a novelty it all was. Off the Irish port of Wexford, the steamboat's smoke was taken to indicate a ship on fire; pilots who went out were surprised to find there was no need for rescue, and disappointed to find no prospect of salvage. The alarm was similarly raised on shore at St. Ives in Cornwall; the inhabitants were 'as amazed by the *Thames* as were the South Sea Islanders at the sight of the ships of Captain Cook.' (13). At Plymouth the steamboat was demonstrated to the Navy. 'The wheels were invisible', Weld writes, so the Fleet 'was astounded about how the *Thames* operated'. Unlike many later paddle steamers, the *Thames* had its wheels mounted inboard of the surrounding gallery, as can be appreciated from Fig 42.

Before the *Thames* arrived at Portsmouth, word of the steamboat's approach had been sent on ahead. Knowledge of its arrival there, as Weld put it, thus 'reduced the wonder, if not the curiosity.' (14). As the vessel came into the harbour, tens of thousands of spectators crowded round in so many boats that Dodd had to ask for a guard. On the following day, the *Thames* was put through its paces, making trips to and from the Isle of Wight. The port-admiral, Sir Edward Thornborough, sent aboard a band and a party of marines, followed by 'three admirals, eighteen post-captains, and a large number of ladies'. Sir Edward gave his opinion that vessels like the *Thames* would be invaluable for towing men-of-war into harbour. The county newspaper, the *Hampshire Courier*, reported in its Portsmouth column that the *Thames* 'on arrival here went into the harbour at great velocity', and continued 'The invention appears to be admirably adapted for vessels coasting in smooth water, but we apprehend would not answer so well in a heavy sea.' (15).

During the voyage south, Dodd seems to have had no fears about putting the vessel to a real test of seaworthiness. To round St. David's Head, he scorned cautionary advice, and insisted on taking the channel by the dangerous Bishops and Clerks rocks, which he negotiated without trouble (16). Throughout, he succeeded in showing how well the paddle-steamer technology and the boat's design performed. It is conceivable that he deliberately set a testing course, to give a convincing demonstration that would stand him, and the vessel's design, in good stead for future enterprises. The *Thames* passed the North Foreland on the morning of Sunday 11 June, and reached its Limehouse berth nine hours later. The owners lost little time before putting the vessel to work; less than three weeks later, on Friday 30 June, the following advertisement appeared in the *Kentish Gazette:*

A New, Superior and Certain Passage from Margate to London in a Day.

The 'Thames' Steam Yacht

will start from Margate every Monday, Wednesday and Friday at 8 o'clock in the morning precisely, & leave Wool Quay, Custom House, Thames Street, London, to return to Margate every Tuesday, Thursday and Saturday at the above hour in the morning.

Fares: First cabin 15s. [75p], second cabin 11s. [55p], including pier duty.

A footnote refers to the 1500-mile trip from Scotland, and to the 'peculiar advantage of proceeding either by sails or steam, ensuring the public are not detained on the water after dark – which frequently occurred with the original packets'. It also added that 'a female servant attends the ladies. Library and games on board.' (17).

The owners may have hoped that the *Thames* would be well ahead of others on the popular run down the estuary to Margate, but competitors were quick to move in on that route with their own services. The rival Margate Steam Packet Company was formed before the year was out, and launched two new steamboats to start in the spring of 1816, the *Regent* and the *Eclipse* (18). Possibly outgunned on the estuary journey by these more powerful vessels, the *Thames* was put on the shorter run between London and Gravesend. This was the beginning of steamboat activity that would go on increasing up to mid-century, ultimately carrying more than a million passengers a year to Thames-side, Thanet and Essex coast destinations, and twice that number on short-distance services within the city (19).

One of the most striking features of Georgian and Regency London was the great number of oar-driven craft on the river, offering those who could afford it the preferred way of moving across the Thames and between Chelsea, Westminster and the City. It was not this short-journey part of the travel market however, initially at any rate, which attracted the steamboat entrepreneur. The first opportunities for steam navigation

came, rather, from the longer type of journey up to Richmond or down to Greenwich, which passengers might make on business or in order to enjoy a brief spell away from the grime and clamour of the city. The kind of journey, in fact, that James Boswell wrote about in his *London Journal*, when in 1736 he and Samuel Johnson went to Greenwich:

> Saturday 30 July. Mr Johnson and I took a boat and sailed down the silver Thames ... We landed at the *Old Swan* and walked to Billingsgate, where we took oars and moved smoothly along the river ... It was a pleasant day, and ... we were charmed with the beautiful fields on each side of the river ... When we got to Greenwich, I felt great pleasure in being at the place which Mr Johnson celebrates in his *London: a Poem* ... We walked about and had a good dinner [and] then came up by water. I was a little discomposed by this small excursion, and felt warm and comfortable at being once again in London (20).

Boswell and Johnson broke their journey at London Bridge, leaving the water at the *Old Swan* and taking another boat at Billingsgate, because going under the old London Bridge by boat was to be avoided. Shooting the rapids between the long breakwaters (known as 'starlings') that protected the bridge piers (Fig. 43), was highly dangerous, and generally avoided by most passengers. The falls at these narrow passages were said to claim the lives of about fifty watermen a year (21).

A new London Bridge, allowing unrestricted flow under the arches, was completed in 1830. Once this was up, the now redundant old London Bridge could be demolished, and the way cleared for river traffic. In the early years of steam on the Thames – that is, between 1815 and the opening of the new bridge in 1831 – it was out of the question for paddle steamers to pass under the old bridge. Passengers heading for Greenwich, Gravesend and beyond had to use embarkation points downstream, one of the most used being at Wapping Old Stairs, the location of which is shown in Fig. 44.

When the new London Bridge was completed and thus allowed passage for steamboats, much of the work performed by oarsmen to take passengers past the bridge was no longer required. Years later when the watermen were struggling to survive, the new bridge with the access it gave to steam vessels was still blamed for their troubles. 'People may talk as they like about what's been the ruin of us', one is quoted as saying, '[but] it's nothing but new London Bridge ... If the old bridge had stood, how would all these steamers have shot her? ... At some times, people wouldn't trust themselves to any but watermen. Now, any fool might manage. London Bridge, sir, depend on it, has ruined us.' (22).

Once the first steamboats appeared on the Thames, the fate of the watermen was sealed; in the long run they could never compete against mechanical power. That they held on for as long as they did was largely because only in the 1830s did steamboat operators introduce their vessels on the short-run services that were the watermen's speciality. The ending of traditional guild monopolies like theirs had in any case become inevitable. Competition based on the entrepreneurial ideal had already broken the strength of protective restraints on profitable commerce in most other fields. The regulations governing apprenticeships were criticised by the Chief Justice in 1756 because their enforcement by law 'offended the higher laws of political economy'. Apprenticeship requirements in the woollen trades (which had been among the first to feel the effects of industrialization) were suspended by Parliament in 1803. In 1814, ancient apprenticeship requirements were abolished for all trades (23). While the adoption of the principles of *laissez-faire* was bringing about the demise of nearly all other trade guilds, Watermen and Lightermen of the Thames remained for a while as colourful exceptions, their anachronistic status maintainable only as long as its local operations were not the target of entrepreneurs with new technology. Once that arrived, the Company was nothing more than a relic, its history preserved in the sentiment of tradition.

The most frequently used watermen's craft among those plying for hire on the Thames was the wherry, illustrated in Fig. 45, generally rowed by two men (24). This was the type of boat that parties would hire for a trip to Richmond or Greenwich. To cross the river, or to get from the riverbank out to a wherry or a sailing boat, one or two people could be taken in a 'scull', the smallest boat, rowed by one man (Fig. 46). Some larger craft, with awnings to shade the passengers, were used on the longer runs such as that to Gravesend and were licenced to carry up to forty people (25). Fares for watermen's services had been laid down by the Court of Aldermen in 1785, and ranged from 2d (1p) for taking one person out from the shore to a boat on the river, to 6 shillings (30p) for a wherry to Gravesend (26).

Passenger-carrying sailing craft, mostly the hoys that went down to Gravesend and the estuary resorts, were hit earlier and more directly by steamboat services than the rowing boats. In 1817, two years after the launch of commercially viable steamboats on the Thames, the author of the History of the Watermen recorded that there were 'about 26 sailing boats on the London-Gravesend run ... these fought manfully for their position, but steam boats were gradually improving in power, and rising in the good opinion of the public.' In 1825, 'the steam boats travelling London-Gravesend are rising in favour, the poor watermen's sailing boats falling off one by one.' (27). The number of steamboat passengers going to Gravesend in 1824 was put at 57,248; by 1842, the total in the year was said to have gone up to 1,141,285 (28).

For some watermen, steamboats meant new career opportunities. By 1819, 'it was general practice for watermen to be licenced by the rulers [of the Company] to act as masters or chief steersmen of each steamboat as became necessary'. In February that year, 'Thomas Brookson, waterman, was licenced to be the master of the *Thames,* and John Jenkins Large to be master of the *Sons of Commerce.*' (29). The number of

watermen able to take advantage of this opportunity would have been small compared with those left with no work.

In the 1820s, guidebooks recommended the steamboat for a day's outing, but still suggested other options. For example: 'there are three ways of taking a day's pleasure in Richmond: the first is by steam yacht; for a large party this is certainly very advisable; [from] the elevated deck ... you can command a view of all objects surrounding the river. The second method is to engage a wherry and two watermen; be sure there is an awning to protect from sun and rain. The third is for parties rowing themselves. The steam-packets ... usually reach Richmond in three hours. A wherry, two hours if on a favourable tide, which you should take peculiar care to consult.' (30).

For women especially, a trip down the Thames in a sailing hoy (Fig. 47) may have been rather too rough-and-ready for comfort. The same guidebook said: 'A sailing excursion is very desirable, but the want of accommodation for ladies in these conveyances has recently given the bulk of companies, going on pleasure, to the steam yachts.' (31). In some respects, the men who ran the trips under sail may have been complacent, failing to appreciate the needs of a developing market. William Connor Sydney, writing a social history in 1891, was scathing about hoy travel:

> Before the practical application of steam to navigation, what contemporary guide-books called the 'most commodious and genteel' way was by booking a passage on one of the yachts, pacquets or hoys which plied at irregular intervals. [However] a voyage in a hoy (Fig. 47) demanded no small amount of courage. Up at six, catch hoy at seven, brave the pitilessness of the elements (a hoy had no cabin to retreat to). Dine off stony cheese, mouldy bread and hard-boiled beef, and drink rum diluted with sea-water. On arrival be hoisted on the shoulders of a fisherman and carried [ashore] more dead than alive (32).

one of 12 round trips per day. Twelve trips per day is almost certainly an under-estimate, and probably more journeys than that could be made each working day. It is difficult to know whether two hundred passengers on each trip represented severe over-crowding; very possibly that number could be crammed aboard without too much difficulty. Nevertheless the importance of this exercise is not so much in determining the extent of over-loading, but rather in demonstrating that in the competitive climate that led to fares being pushed down to only a halfpenny, there would have been a powerful incentive to carry as many as possible, and to cut journey times by driving the steam engine to the limit of its capacity. Details of the figures assembled to work this out are shown in Appendix II.

For all types of steamboat operations on the Thames, one of the most important goals for this study has been to establish the social class of passengers, but direct and unequivocal evidence of this is difficult to find. Illustrations of Thames steamboats taking Bank-Holiday crowds down river should be useful in helping to identifying the class of passengers, but it would probably be unsafe to draw an entirely positive conclusion from such examples as can be found.

One illustration that might be thought to yield some answers is the *Illustrated London News* picture in Fig. 51, showing packed excursionists heading for Greenwich on an Easter Monday. The general impression is that they were all out for a good time, but whether there is a mix of middle and working class aboard is impossible to judge. The apparently middle-class apparel is no real guide; by the 1840s, many working people dressed well for the holiday occasion. Nevertheless it is argued that in all probability the working man was there, and possibly in some considerable numbers. The justification for this cannot be based on concrete evidence; in most situations like this there is an apparent contradiction: figures suggest that the lower orders were

indeed travelling on the holiday-weekend steamboats, while wage levels suggest that not many of them could.

The run between London and Greenwich was inevitably one of the first regular services for steamboats, not only because the place attracted Londoners seeking a few hours away from the city, but also because by the 1830s it was increasingly a favoured out-of-town residential location. As a place for recreation, though, it changed over the years. From early in the eighteenth century, Greenwich Park acquired notoriety as a place for boisterous frolicking, enjoyed as much by servants and tradesmen, seamen and dockyard workers as by the well-to-do (60). Fun for visitors centred on the great green slope that runs down from the observatory, which drew the crowds to the sport of tumbling down the hill. At least twice a year, antics there 'swelled into the mayhem of Greenwich Fair', and there is a clear impression that the lower orders were fully represented. The behaviour eventually became so unbridled that the more sober of the townspeople campaigned from 1825 to close it down, though they failed to do so until 1857 (61).

River passenger traffic between Greenwich and central London became busy in both directions. In the late 1830s, the demand led to steamboats running an all-year-round service, much of it for middle-class residents of Greenwich and Woolwich to go into town for business as well as pleasure. The secretary of the Woolwich Steam Packet Company is quoted by Barker and Robbins as saying in 1837: 'Nearly all in the Government Departments [strongly represented in the Woolwich area] ... [and] nineteen out of twenty in the town ... use this mode, as it saves them at least 100 per cent in money, and they go quite as quickly.' (62). The commuter travelling each working day between home and office had thus become a feature of London life as early as the 1830s.

As the crowds who once went to Greenwich for a day's enjoyment began to go past to seaside resorts such as Margate (by train as well as steamboat), the Greenwich steamboat catered increasing for the well-dressed evening out, generally with dinner at river-front hotels like the *Ship* and the *Trafalgar* (63). In Charles Dickens's *Our Mutual Friend,* heroine Bella takes the steamboat to Greenwich, first to entertain her father and later to celebrate her marriage: 'The little expedition down the river was delightful, [as was] ... the little room overlooking the river ... looking at the ships and steamboats making their way to the sea ...'. (64). Though the London and Greenwich Railway was running by 1838, a voyage down river by paddle steamer clearly still had its own attractions. Caroline Clive, a lady from the country-house set, wrote from London in July 1844 to say: 'We went up and down the river in steamboats, up to see the new Houses of Parliament, and down to eat dinner at Greenwich ... We sat in a window seat and got very jolly indeed over this good fare. There came by twenty-one steamboats in an hour ...' (65). There was nothing in her tale to suggest that she had to share the experience with any of the lower orders. Perhaps it was a matter of going to Greenwich on the right day, because the American Nathaniel Hawthorne thought differently, finding the common people there too rough for his tastes. He wrote in the 1860s about 'the Cockneys at Greenwich ... picnicking in the grass, uncouthly gambolling on the slopes, or straying in motley groups. They... have no daily familiarity with ... a wash-bowl, not to mention a bathing-tub.' (66).

After Greenwich, Gravesend was the chief down-river attraction for the Londoner. The town grew up originally because of its location, above which it becomes too narrow for sailing ships to tack, and it thus became the checkpoint for shipping passing into or out of the port of London. During the eighteenth century, Gravesend developed as an accessible down-river resort. Would-be visitors were advised that 'a boat comes ... for those passengers who wish to go ashore. The tribute they [the boatmen] levy for each person is one shilling [5p], ... but ... in the summer of

1819 and 1820, seven hundred watermen depended on getting a subsistence at and about Gravesend'. The place retained its nautical flavour; visitors were warned that: 'the moderate [refreshment] houses are principally frequented by captains, mates and seamen of merchant vessels, who are not the most fastidious persons in their manner of victualling.' (67).

The maritime trade that had traditionally supported Gravesend's economy slackened after the peace of 1814, but 'happily the introduction of steam navigation from 1815 fully compensated ...' (68). On 10 November 1828, 'the inhabitants [presumably the leading men with money] resolved to form the Gravesend and Milton Steam-Boat Company.' (69). The company's first steam packet, built at Gravesend, was launched in April 1829.

By then, what would now be called tourism was becoming an important part of the town's economy, and in 1830 'the expediency of providing a pier which might be approached by steamboats at all states of the tide ...' was considered (70). The proposal was violently opposed by the watermen who conveyed passengers from steamboat to landing place, and in 1831 they formed a club to fight for their rights. Their opposition came to nothing, and the resulting pier, a remarkably grand structure (Fig. 52) costing £8,700, was opened with great ceremony and the customary banquet in July 1834 (71). The last jobs for local watermen disappeared as soon as the pier was complete, though at the London end some held on to a depleted living by taking passengers out to steamboats in mid-stream (Fig.53).

A new leisure attraction that was to bring Londoners downstream in even greater numbers came in 1837, when a developer named George Jones leased land at Northfleet near Gravesend, and there created the Rosherville pleasure gardens (named for the owner of the land, Jeremiah Rosher) (72). On a site like a natural

amphitheatre, the gardens were laid out with ornamental features and exotic attractions, and the facilities for leisure, entertainment and refreshment most likely to appeal to the visitor. When the travel writer Elizabeth Jane Brabazon saw the gardens, she found the place 'a kind of fairy land ... transformed into luxurious groves and tasteful parterres', with Old English style gardens, music temples, terraces, arches and ornamental basons (sic) with gold, silver and tortoiseshell fish. There was a grand banqueting hall, 'with mirrored pillars and an interlaced roof', which became a favoured venue for meetings (73). Steamboat passengers arriving from London were able to disembark at the Gardens' own pier, close to the Rosherville Hotel, a strikingly grand 100-bedroom establishment that must have been a remarkably dominant feature of the riverside landscape. A view and plan of Rosherville Gardens, an illustration of the Rosherville Hotel and a reproduction of an advertisement for it are shown in Fig. 54.

Socio-economic forces characteristic of the time, associated with rapid technological change, soon had their effect on the fortunes of Rosherville Gardens and the hoteliers of Gravesend. After mid century, the appeal of the riverside resorts faded as Londoners went past on their way to the coast. 'Alas! for the hotels of Gravesend', Brabazon wrote, 'their palmy days are over. For the Londoner, who ... can be whirled away in a few hours to Brighton, Ramsgate or Margate, the flags and fountains of Gravesend flap and play in vain. Steam has been the rival of Steam! And the boat, sometimes considered rapid, is laggard now in comparison with the train, and slighted ... by the impatience of "the masses".' (74).

It would be helpful to know exactly what the author meant by 'the masses'. The expression was only recently acquiring the sense of 'the lower orders' (75). It is tempting to think that she had in mind the increasing numbers of holidaymakers who at the seaside would choose beer and the whelk-stall on the beach, rather than

sandwiches and conversation at the tea-room; but she may have simply meant large numbers of people, with no specific social-class connotation. In 1863, when Brabazon was writing, Britain was well into the Victorian era when social differentiation of the classes had become more defined, particularly through classification by the differing levels of accommodation on railway trains. The 'masses' for the writer were probably those who poured out of third-class carriages at their seaside destinations.

But in the 1840s, whatever may have been said by observers such as Hawthorne about the rough types going to Greenwich, there is little except the circumstantial evidence of statistics to indicate that manually-working people were among the passengers on the steamboats. The scale of steamboat usage suggests they must have been – for example on Whit Monday in 1847, 'it was calculated that 34,800 embarked at the Charing Cross Bridge steam boat pier alone' (76). Most were off to Whit Monday fairs, at Greenwich, Wandsworth or Stepney, and from the sheer numbers they must have included a great many working people, especially as the *Illustrated London News* reporting this loftily compared steamboat passengers with those having more refined interests, saying: ' The more rationally inclined betook themselves to the intellectual pastimes of examining museums and galleries.' (77). So while the middle classes followed these more cerebral pursuits, by implication it could well have been numbers of working people who made up the crowds on the bank-holiday steamboats.

It is not difficult to visualize the people who, in 1815, made up the first customers for steamboats on the Thames. That was in Regency days, and the ladies and gentlemen of that time who tried out the novelty of steam navigation would have gone to saunter on the riverside promenade, and to show off their social graces, keeping carefully to the rules of upper-class behaviour. In the 1830s and 40s, probably the only thing that remained certain from those days was their determination to distance themselves from what they perceived as the mob. It is much less easy to be

sure about the type of people who thronged the paddle steamers, 500 or more at a time, on summer weekends in the 1840s. Humpherus's record says that in 1835, 670,542 people made the trip from London to Gravesend (78). If the figure is correct, it would appear to mean that nearly one in three of the population of London (then approximately 1.8 million) went there during the year. Some must have gone more than once, and many may have come from outside London, but even after making appropriate allowances, the number suggests that a good many working people must have been included.

The high point of steamboat activity came on Sundays. For most people that was the only day free from work, and the implications are that the lower orders were among the passengers. Evidence from contemporary material, however, seems to show no-one visibly lower than the aspiring lower middles, the shop assistant and the clerk, and certainly no representatives of the working poor. The Easter-Monday crowds in the *Illustrated London News* of 1847 (Fig. 51) appear to be almost all top-hatted, although the evidence of this one sartorial item is not necessarily conclusive. As the account of a working day in London by George Sala shows (79), the top hat (and a respectable outfit to go with it) was the invariable work-day dress of City clerks. Most of these, in the 1840s,were at the upper fringe of the working class rather than middle class.

The fact that outings were occasions for dressing up in 'Sunday best' clothes tends to obscure any clear impression of manual workers being steamboat passengers. Nevertheless a useful starting point for assessing class participation, in the specific case of London, can be found in an early polemical work by Charles Dickens. In 1836, Dickens wrote, under the name of 'Timothy Sparks', a 50-page pamphlet entitled *Sunday Under Three Heads,* essentially a plea for the more relaxed public enjoyment

of most people's one free day, Sunday. This was written to counter growing campaigns for more rigid Sabbatarianism.

To illustrate the harmlessness of enjoying a day out, Dickens describes the many pleasure-seekers who 'sally forth ... bearing large hand-baskets full of provisions, and Belcher handkerchiefs done up in bundles, with the neck of a bottle sticking out at the top, and closely-packed apples bulging out at the sides ... to the steam-packet wharves ... There are dozens of steamers to all sorts of places – Gravesend, Greenwich and Richmond ... [At] their places of destination, the taverns are crowded, but there is no drunkenness or brawling, for the class of men who commit the enormity of making Sunday excursions take their families with them. Boisterous their mirth may be ... but nothing but good humour and hilarity prevail.' (80).

Everything about Dickens's description suggests the life-style and behaviour of the working man, even though allowance may have to be made for the author's intentions. He could be expected to concentrate on plebeian jollity, to make his point about the beneficial release from care that comes with a relaxed attitude to the observance of Sunday. He possibly shows over-sanguine selectivity to make his case. However that may be, there is no escaping the conclusion, from his account, that numbers of working people, evidently not in the middle-class category, found it possible to travel on Thames pleasure steamers in the 1830s.

At this point, it is worth considering how much the whole commercial ethos that developed in the running of Thames steamers contributed to making this possible. Without steamer services, which were run on a commercial policy based on the value of expanding capacity to increase profitability, would the working man and his family have been similarly observable by Dickens on a Sunday morning, thronging the decks of sailing vessels? Some opportunity may have been there, but it took the coming of

steam technology to allow a new form of enterprise to expand to such an extent, and to cater for a much wider market than would have been possible with sail.

For all that Dickens portrayed what appeared to be working-class families making their way to the river steamers in 1836, some evidence tends to suggest that much steamboat travel, even in the 1840s, was seen as purely middle class. An example appears in a cautionary tale in verse, originally written for children, by 'S.H.M.C' - *The Adventures of Johnny Neveright or An Excursion to Gravesend* (81). Everything about this is middle-class in tone, and its illustrations, which include impressions of the Gravesend steamboat pier, show nothing but middle-class costume and style (Fig. 55). Such examples might not, of course, represent the real scene; possibly editorial policy slanted the stories to a middle-class market.

At the upper fringe of the lower class, the swelling army of clerks, commuting into the City every morning to keep the books of the merchants, brokers and insurers, represented a new social layer. In the sense that they were poorly-paid drudges with their noses held to the office grindstone, they were not part of the middle class. But by their efforts to keep up appearances, they evidently saw themselves as above the manual worker. In his perceptive work depicting a day in the life of London, *Twice Round the Clock,* George Sala writes of the London clerks of the post-1850 years: '... borne in swift, grimy little steamboats crowded with living freights to the Old Shades pier hard by London Bridge. There is scuffling and pushing ... [and] for an instant Thames Street is invaded by an ant-hill swarm of spruce clerks, who mingle strangely with the fish-women and the dock porters . But the insatiable counting-houses soon swallow them up.' (81). All wore the top hats that would distinguish them from the less favoured mortals engaged in manual work, and sometimes make identification of social class uncertain (Fig. 50). The carriage of these great numbers of City employees

is one of the clearest instances of the role played by the steamboat in encouraging the practice of daily commuting between home and place of work.

For the 1840s in Britain, it becomes difficult to find a term that defines social categories with reliable precision. In one sense, the cabinetmaker and the casual labourer (once both included in those known as 'the labouring poor') were in the same 'working class' category, but in terms of purchasing power, and increasingly in outlook, they were poles apart. The cabinetmaker, probably earning much more than the clerk, could afford the price of a day out at Gravesend, and it may be supposed that men such as City clerks were also represented among the steamboat passengers. On this reasoning, the technology of the steamboat, which brought an unprecedented capacity to carry large numbers, can be said to have been significantly associated with opening up leisure travel to the less elevated reaches of society. There is some thought that this came as early as the 1820s, when as the social historian F. M. L. Thompson put it, 'the better-paid East End artisans ... were joining with Cockney clerks in their thousands on excursions to Gravesend by paddle-steamer.' (82).

The excursion was, by the 1840s, an increasingly important factor in providing further opportunities for many to enjoy steamer trips. It may be that some of Brabazon's impressions of the 'masses', and Hawthorne's opinions of the unwashed Cockneys, were largely based on their witnessing those special occasions when festive Londoners descended in numbers on a resort, having been taken there *en masse* and at an affordable cost by means of an organised excursion. Most providers of transport services, steamboat and railway alike, quickly saw the potential for profit in the excursion trip, and it was not long before large employers, working-men's organizations, and groups with religious and social aims, realised that the steamboat offered a useful means of getting people together for some common cause. Thompson comments neatly on the variety of motivations when he says of excursionists,

[whether they were] 'intent on self-improvement and eager for an uplifting experience, or with less complicated ideas about adventure, curiosity about strange places ... pleasure at getting away from dreary surroundings, it is impossible to tell, [but probably] enjoyment – of food, drink, and a bit of a lark – was what the great majority had in mind.' (83).

Many occupations had a tradition of the annual outing. The 1830s also saw the introduction of working men's organisations, promoted largely by increasingly sophisticated political ideas, mostly in the more highly skilled trades (84). For such groups, a steamboat excursion could draw members together in the congenial atmosphere of a day's outing down the river.

One trip of this kind was recorded in verse in a tract written by 'C. D.' (probably Charles Dent, a workers' spokesman). This celebrated the *Socialist Excursion to Rosherville Gardens*, a steamboat outing made by some 500 on a Sunday in June 1844 (85). The central theme, of the working man appreciating aesthetic pleasures as much as the rich man, is coupled with protests at the hypocrisy of the sabbatarians and clerics who would deprive him of his only chance for relaxation. Groups with common religious and social aims also saw the advantage of the togetherness achievable on a steamboat excursion, and Rosherville Gardens made a useful venue for large-scale meetings. In August 1855, for example, some 500 people went there to hear about a Baptist charitable project for ragged schools, going by steamer from London Bridge, hearing an address in the Great Hall (where the resident orchestra was asked to stop playing dance music), and going on to enjoy an afternoon's recreation (86).

But the essence of Rosherville in its prime is probably best represented by a small musical piece for the stage, which was first performed at the Adelphi Theatre in London on 12 July 1847. This 40-minute frolic, *Out on the Sly, or A Fete at*

Rosherville, was a 'terpsichorean burletta' in one act written by the comedian Charles Selby, featuring a flirtatious evening in the glades of Rosherville's gardens (87). The characters have travelled there by steamboat, and according to the programme notes, are 'discovered shooting at the butts, dancing on the lawn, etc.' The leading character, Pimlico Pippins, enters saying: 'Pon my life, these sea voyages will be the death of me! Two hours in the briling [sic] sun, inhaling pitch and tar, tobacco, steam, and train oil, in company with three hundred ladies and gentlemen, and dogs, and children and every other kind of quadruped, wedged heads and tails like pickled herrings in a tub – dreadful! So this is Rosherville, the paradise of milliners ... it's delightfully rural! ... So romantic and poetical – as poets observe:

When the evening breeze
Wiggle-waggles the trees
And the fountains sigh
And pipe their eye
And rooks they caw
And donkeys hee-haw!

Oh come, love, and tea
In a bower with me
For in Rosherville's shade
The bread is home-made
And the moon's silver beam
Like Devonshire cream
Will flavour our flagrant [sic] Bohea!'

There is no mistaking the character of the piece. It is less easy to be sure about the social range of the audience it is aimed at, although it can be assumed that the entertainment would be written to suit a typical Adelphi audience of the time. A Cruikshank print of such an audience is depicted in Fig. 56, with its social spectrum covering the *bon ton* in their boxes, the middle ranks in the pit (stalls) and the rougher types up in the 'gods'. With some reservations, it is reasonable to suggest that a similar range of social classes might be represented among those having an evening out at the Gardens, although conceivably the most socially elevated might disdain the Rosherville environment altogether. It is possible that the middle and the artisan classes would have found themselves sharing space on the steamboat trip to the Gardens (as Charles Selby's leading character deplored), but would make different

choices about things to do when there. Some evidential clues undoubtedly reinforce the view that complete democratization of pleasures would be out of the question. The architect's drawing of the Rosherville Hotel reproduced in Fig. 54, for example, suggests a grandeur of accommodation that the upper ranks of society, looking for exclusivity, would have found reassuring after a steamboat voyage shared with a motley crowd from lower down the social scale.

Would such mixing on the journey have been likely in the days before steam? The fundamental change when the steamboat arrived was in the matter of passenger numbers. Once it became possible to think in terms of hundreds of passengers instead of handfuls, and fares fell correspondingly, a way was opened that made social widening of travel not simply possible, but virtually inevitable.

Discussion of the social class of the people who went by steamboat to enjoy the 'luxurious groves and tasteful parterres' of Rosherville Gardens leads to resolution of the first question considered in this chapter, which asks whether, and to what extent, the steamboat was instrumental in opening up leisure travel to those identifiable as 'working class'. A first point to be emphasized is that, according to at least one eighteenth-century witness (88), the working man had long managed to enjoy the amenities of places of entertainment such as Vauxhall Gardens and the theatre. Well before the days of steamboats, the lower orders appear to have made their way out to places like Greenwich in some numbers on Sundays (89). The 'common people' of London were used to going out for pleasure if they could manage to do so. It is reasonable to believe that when the steamboat brought a dramatic increase in travel opportunities, working people would have been ready to take advantage of them.

Nevertheless one frustration for this study is the absence of unequivocal evidence, as from personal recollections, indicating that Thames steamboats carried passengers

fully representing the lower social classes. The passengers on holiday steamers like those in Fig. 51, for example, could be expected to include a fair proportion of people of artisan class or below, but there seems to be little in the illustration to confirm this. The great numbers participating by the 1840s provide the best indication that leisure travel had been extended, on a substantial scale, well beyond the exclusivity of the middle classes. Implications also come from anecdotal examples. Both the Socialist outing described by 'C. D.', and Dickens's description of the families heading for the steamboats, reveal not only the working man's determination to get his share of enjoyment in the fresh air, but also the extent to which the steamer on the Thames was apparently making this possible.

Concluding remarks must also stress that the development of steamboat services in London took place at a time of immense and rapid socio-economic change. In 1815, London was a Regency city of not many more than a million people. In 1845, when steamboat activity on the Thames was reaching its zenith, London had nearly two million inhabitants, and was acquiring the social mores and the commercial attitudes of a society approaching the summit of Victorian prosperity and application of the principles of *laissez-faire*. Exploitation of new technology appears to have led to steamboat commerce being characterized by extremes of competition. The way that London steamboats were allowed to run, as their operations expanded from the exclusivity of early services to the reckless overcrowding of the 1840s, inevitably invites questions about the willingness of Westminster legislators to follow the spirit of the precept set down in their report of June 1817, in which they had said ' ... where public safety is involved, it is the duty of Parliament to interpose.'

Since this study is primarily concerned with social significance, the plight of the watermen of the Thames has also been noted at each stage of their demise. Despite the fact that by 1815 their organisation, like all such guilds, was already out of its time, it is

reasonable to suppose that, in the absence of the steamboat, their profession would have continued to operate for many more years than it did. Long after the railway had displaced the stagecoach, the watermen would surely have still found some customers, and the sailors manning the hoys might well have continued taking those who enjoyed sailing for its own sake (probably with improved accommodation on their sailing craft) for a number of years more. The final take-over of the waterman's role came, however, when short-journey steamboats like the *Ant*, the *Bee* and the *Cricket* began to provide cheap and frequent services between the City and central points upstream, near to the rail termini that came with the first bout of railway mania. The era of the steamboat as an intra-city passenger carrier was short; rapid change continued to be the over-riding characteristic of travel in nineteenth-century London. Within a further forty years, the need for such vessels on the metropolitan river would largely disappear, while paddle steamer operations became increasingly visible in the context of the seaside leisure discussed in the following chapter.

5.

Notes and References

1. Christopher Hibbert (1980), *London. The Biography of a City,* Harmondsworth, Penguin Books, p. 107. These figures come from John Taylor (1580-1653), waterman and self-styled 'King's Water Poet'.

2. P. Colquhon (1800), *A Treatise on the Commerce and Police of the River Thames,* London, Joseph Mowman, pp. 14 and 182.
Figures of employment on the Thames are also in Thomas Nicholls (1823), *The Steam-Boat Companion or Margate, Thanet and River Thames Guide,* London, Thomas Hughes, p. 308. This estimates 'not less than 8,000 watermen, 1,200 Revenue Officers, and some 3,000 wherries and small boats for passengers'. The guidebook's figure of 8,000 'watermen' is almost certainly for both watermen and lightermen, while the figure of 3,000 wherries and small boats agrees with Colquhon's 3,000 watermen.

3. Among these were the design by Fourness and Ashworth, Hull 1790, allegedly tried on the Thames (see chapter 2), and the Bristol Avon steamboat (see chapter 4), also believed to have been used on the Thames. Capt. N. W. Kennedy (1933), *Records of the Early British Steamships,* Liverpool, Charles Birchall and Sons, p. 6.

4. H. Humpherus (1859), *The History of the Origin and Progress of the Company of Watermen and Lightermen of the River Thames 1514-1859,* London, Prentice and Manson, Vol. III, p. 125. Most of the steamboat developments on the Thames from 1815, and the resulting loss of employment for the watermen, were recorded in this three-volume work, commissioned as a history of the Company from its foundation.

5. Ibid., p. 125.

6. Ibid., p. 125.

7. At the end of the 1815 season the *Margery* was possibly sold to Andriel, Pajol et Cie. of Paris, refitted as the *Elise,* and sailed to France for service on the Seine. H. Philip Spratt (1958), *The Birth of the Steamboat,* London, Charles Griffin and Company.

8. F. L. Dix (1985), *Royal River Highway,* Newton Abbott, David and Charles, p. 51.

9. G. Dodd (1818), *An Historical and Explanatory Dissertation on Steam-Engines and Steam-Vessels,* London, Asperne, Richardson, Ackerman and Hailes, p. 229.

10. Dodd, op. cit, pp. 253 et seq. The detailed story of the voyage of the *Thames* to London is in Isaac Weld's narrative, *A Passage from Dublin to London in a Vessel propelled by Steam,* which is reprinted as part of Dodd's book. Weld's account was first published in the French *Journal des Mines* in September 1815, and a fuller version was printed in *Fraser's Magazine for Town and Country,* September 1848, London, John W. Parker. The first English-language account of Dodd's voyage appeared in the *Scots Magazine* of March 1816, in an article by J. C. Delamertherie, 'On Steam Vessels, with a Narrative of a Voyage performed by one from Glasgow to London'. Delamertherie's story is closely similar to Weld's, but Weld's name is not mentioned.

11. Ibid., p. 255.

12. Ibid., p. 262.

13. Ibid., pp. 263-4.

14. Ibid., pp. 275-7

15. *The Hampshire Courier,* Monday 18 June 1815.

16. Dodd, op. cit., p. 272

17. *The Kentish Gazette,* Friday 30 June 1815.

18. Dix, op. cit., p. 52.

19. T. C. Barker and M. Robbins (1975), *A History of London Transport,* London, George Allen & Unwin Ltd, vol. I, pp. 42-3. By some estimations, the total numbers using steamboats on the Thames (excluding City commuters) rose above the million mark in the 1840s. The evidence of Richard Smith (see chapter 4) to a Parliamentary Committee in 1837, putting the whole country's usage at 30 million journeys a year, must be seen as a gross over-estimate; if this is conservatively reduced to 10 million, and only a third of these were on Thames services, these would still be in the 1-2 million range. This seems reasonable; in 1835 nearly three-quarters of a million people were said to have made the trip from London to Gravesend (see chapter 4).

20. Frederick A. Pottle (ed.) (1985), *Boswell's London Journal 1762-63,* London, The Folio Society, pp. 293-5.

21. Hibbert, op. cit., p. 108.

22. P. Quennell (undated), *Mayhew's London.* Selections from *London Labour and the London Poor,* London, Spring Books, p. 580.

23. D. Hay and N. Rogers (1997), *Eighteenth-Century English Society,* Oxford, Oxford University Press, pp. 102-109.

24. The wherry was the universal light passenger-carrying rowing-boat of the Thames, generally with two oarsmen. Confusion about the name sometimes arises because in East Anglian coastal waters the term wherry (also known as the Norfolk wherry) designates a traditional sailing barge, carrying up to 30 tonnes of cargo. On the river Clyde, wherry was also the term for a substantial vessel much used for passenger carrying until superseded there by the steamboat (see chapter 3).

25. C. Bowles (1786), *Bowles's New London Guide and Hackney-Coach Directory,* London, C. Bowles, p. 172.
Fares to some 30 Thames destinations are listed in this comprehensive guidebook. Direct comparison with steamboat fares is difficult because of the different fare structure. For example, in 1786, ten people sharing a wherry to Gravesend would pay 1 shilling [5p] each; when steamboats came into service, fore-cabin fares to Gravesend appeared to remain for decades at 2 shillings [10p] each.

26. Humpherus, op. cit., Vol. III, p. 148.

27. Ibid., Vol. III, p. 147.

28. J. Armstrong and P. S. Bagwell, 'Coastal Shipping' in Derek H. Aldcroft and Michael J. Freeman (eds) (1983), *Transport in the Industrial Revolution,* Manchester, Manchester University Press, p. 164. The number of journeys from London to Gravesend, over 1.1 million in 1842, had risen from a total of 20,000 in 1831.

29. Humpherus, op. cit., Vol. III, p. 156.

30. J. Hassell (1823), *Excursions of Pleasure and Sport on the Thames,* London, W. Simpkin and R. Marshall, p. 57.

31. Ibid., p. 5.

32. W. C. Sydney (1891), *The Social History of the Times,* London, Ward and Downey, Vol. II, p. 80.

33. Humpherus, op. cit., Vol. III, p. 171.

34. *Kentish Gazette,* Friday 6 June 1823.

35. *The Steamboat Companion from London to Gravesend, Southend, Margate and Ramsgate,* London, Sherwood, Gilbert and Piper, no author's name; date can be inferred as 1829-30, since there is a reference to the 'recent' completion of St. Katherine's Dock, which was in 1828.

36. Humpherus, op. cit., Vol. III, p. 260.

37. See chapter 4.

38. Humpherus, op. cit., Vol. III, p. 136.

39. Roger Finch (1973), *Coals from Newcastle,* Lavenham, Terence Dalton Ltd, p. 41.

40. *An Epitome of the Progress of the Trade in Coal to London since 1775,* (1869 edition), London, J. R. Scott, pp. 2-4. Tables of coal tonnages delivered to London give figures of 1 million chaldrons (approximately 1.25 million tonnes) in 1800, 2.1 million tonnes in 1832, 2.6 million in 1840, and 3.6 million tonnes in 1850. The price of coal appears to have been close to £1/tonne throughout the nineteenth century, giving merchants a turnover of around £3.5 million a year in the 1845-50 period.

41. 'T. Telltruth' (1815), *A Brief Development of the Nefarious Conduct of the Black-Diamond Mongers, with Regard to the Present System of the Coal Trade,* London, W. Glindon, pp. 5-15, 25 and 32. This argued that buyers of coal were 'systematically cheated by the coal dealers'. Coal commerce was controlled by ship-owning merchants. Coal heavers and backers all worked for publicans, who were set up by the owners of coal ships. Getting work depended on consumption of drink. Mayhew claimed that there were seventy taverns on the Thames, 'the landlords making fortunes out of ... employing coalwhippers'. (Quennell, op. cit., pp. 552-7).
P. Colquhoun (1800), *A Treatise on the Commerce and Police of the River Thames,* London, Joseph Mawman, p. 144, calculated that publicans made a total of £24,506 a year from this business, equating to £30 a year from each coal heaver.

42. Finch, op. cit., p. 49.

43. Simon P. Ville (1987), *English Shipowning during the Industrial Revolution,* Manchester, Manchester University Press, p. 6.

44. Dix, op. cit., p. 55.

45. Ibid., p. 55.

46. P. Goodwin (1987), *The Construction and Fitting of the Sailing Man of War, 1650-1850,* London, Conway Maritime Press, pp. 225-6. According to this account, in the mid 1700s, leading timber suppliers 'imposed industrial dictatorships ... Private timber merchants often sold inferior wood to the dockyards ... [making] massive profits at the government's expense'. [When in 1801 Lord St Vincent decided to have the timber examined by his own inspectors, the timber merchants withheld supplies].

47. F. Burtt (1949), *Steamers of the Thames and Medway,* London, Richard Tilling, p. 10.

48. PP 1817 (483) II, 345.

49. Bryan Donkin (1768-1855) and Henry Maudslay (1771-1831) were two of the most renowned engineers of the early nineteenth century; Timothy Bramah was the son of the famous Joseph Bramah (1748-1814).

50. PP 1817 (422) VI.223.

51. Ibid.

52. PP 1831 (335) VIII, 1.

53. Humpherus, op. cit., Vol. III, p. 300.

54. Ibid., Vol. III, p. 301-2. The numbers of fatal incidents directly associated with steamboat operations can be compared with the total deaths in the river in the Port of London in 1834-5, which amounted to 197. Of these, 18 were associated with steamboats, the others being caused by falling from boats and ships, by falling timbers etc, and being found drowned. Ibid., p. 318.

55. *The Illustrated London News*, 4 September 1847.

56. Ibid., 2 October 1847.

57. Ibid., 4 September 1847. The technical work was by Edward Portwine (an engineering writer) who quoted from this: 'There are 3 vessels on the Thames, called the *Ant, Bee* and *Cricket*. Boats which profess to work with low pressure condensing engines. The public is not aware that they are working at 36 lb/sq.in. Fuel consumed is 2 cwt 1 quarter per hour. They are penny (now halfpenny) boats plying from Hungerford to London Bridge and "may when out of order blow up their decks and the passengers".'

58. Ibid., 17 July 1847.

59. Ibid., 17 July 1847.

60. C. Aslet (1999), *The Story of Greenwich*, London, Fourth Estate, pp. 219-223.

61. Ibid., p. 225.

62. Barker and Robbins, op. cit., p. 42.

63. Aslet, op. cit., pp. 230-3.

64. C. Dickens (1865), *Our Mutual Friend*, London, Everyman's Library Edition 1994, David Campbell Publications, pp. 318 and 664-9.

65. M. Clive (ed.) (1949), *Caroline Clive. From the Diary and Family Papers of Mrs Archer Clive, 1801-73*, London, The Bodley Head, p. 189.

66. N. Hawthorne, *Our Old Home*, Eds W. Charvat, R. H. Pearce, C. M. Simpson and M. J. Bruccoli (1970), Ohio State University, pp. 222 and 234-6.

67. Hassell, op. cit., p. 31.

68. E. Brabazon (1863), *A Month at Gravesend*, London, Simpkin and Marshall, p. 126.

69. Ibid., p. 127.

70. Ibid., p. 127.

71. Ibid., p. 128-9.

72. Ibid., p. 63

73. Ibid., pp. 64-5.

74. Ibid., p. 33.

75. Until 1837, when the term 'masses' was first used, 'mass' was apparently the term for the whole population, not specifically lower class (see *Oxford English Dictionary).* Twenty-five years later the meaning had apparently changed, a user of the term in 1862 being recorded as writing of 'the masses, as they are called', meaning the 'lower orders'. This is probably the sense in which Ms Brabazon was using the term.

76. *The Illustrated London News,* 29 May 1847, p. 342.

77. Ibid, p. 342.

78. Humpherus, op. cit., Vol. III, p. 299.

79. G. A. Sala (1878), *Twice Round the Clock,* London, J. and R. Maxwell, pp. 87-*8.*

80. 'Timothy Sparks' (1836), 'Sunday under Three Heads' in C. Dickens (1906), *Collected Papers,* London, Chapman and Hall, Vol. XIX, pp. 158-9

81. 'S. H. M. C.' (1845), *The Adventures of Johnny Neveright or An Excursion to Gravesend,* London, Dalton and Clarke, *passim.*

82. F. M. L. Thompson (1988), *The Rise of Respectable Society,* London, Harper Collins, p. 289.

83. Ibid., p. 262.

84. A. Briggs (1999), *England in the Age of Improvement 1783-1867,* London, The Foilio Society, pp. 261-2. Of the development of working men's groups for mutual assistance in the first decades of the nineteenth century, the author says: '... the more sophisticated London workers ... and some of the skilled artisans in the big cities were prepared to take part in working-class organisations. . .'

85. 'C. D.' (Charles Dent?) (1844), *Socialist Excursion to Rosherville Gardens.* An account in verse preserved in a collection of Miscellaneous Pieces, BL.

86. *Bazaar Gazette,* published by James Paul for the National Anti-Corn-Law League, which quotes from *Political Tracts,* published by the Baptist Messenger and Chronicle of the Churches, August 1855.

87. Charles Selby (1847), *Out on the Sly, or A Fete at Rosherville.* A Terpsichorean Burletta in One Act, London, Duncombe and Moon, *passim.* The Adelphi specialized in short musical pieces and burlesques. 'Bohea' is a once-popular black tea, and the 'train oil' objected to was an engineering lubricant extracted from whale blubber.

88. R. Nettel (trans. and ed.) (1965), *Carl Philip Moritz. Journeys of a German in England in 1782,* London, Jonathan Cape, p. 27 and p. 60.

89. G. Rudé (2003), *Hanoverian London,* Stroud, Sutton Publishing, p. 95.

Fig. 57. Regions of English and Welsh coasts discussed in this chapter 6.

6

Steam navigation and the seaside resort

By the time that passenger-carrying steamboat activity in London was reaching its peak in the early 1840s, operators had enjoyed some twenty years of summer business, taking thousands of Londoners every season down the Thames estuary to the Thanet resorts. Similar operations were launched to carry visitors to other resorts around the coasts of England and Wales. Existing resorts grew in size, and new ones sprang up, to satisfy an unprecedented appetite for the physical and social invigoration of a stay by the sea. In this special instance of the impact of a new technology on society, related change in behaviour was inevitable, and the social significance of this aspect of the introduction of the steamboat is examined in this chapter. Outline maps of those parts of the English and Welsh coasts on which discussion in this chapter is focused are shown in Fig. 57.

Before specific aspects of the socio-economic relationship of the new technology and the seaside resort are examined, the nature and origin of that remarkable cultural phenomenon, the seaside holiday, need to be explored. Well before the period discussed in this study, the English leaders of fashion began to display an interest in holidaying at the seaside. When the steamboat was introduced, in Regency times, that interest had grown to a widespread passion, seemingly unique to Britain. This chapter will examine reasons for this singular behavioural characteristic, with which the development of steam navigation came to be associated.

Two questions of social importance lead the analysis. Firstly, what influences did the coming of steam navigation have on the development and the social

character of seaside towns in England and Wales? Secondly, how much did the steamboat contribute to the social-class broadening of leisure travel, in particular extending the chance of a seaside holiday to the working man and his family?

For the first question, there appears to be no one simple answer. Resorts were founded, developed and evolved in response to a variety of influences, with differing effects related to the introduction of steam navigation. For the second question, it will be shown that, largely because of its great passenger-carrying capacity, the steamboat undoubtedly gave many of the lower orders an unprecedented chance of a trip to the seaside. But whether this social extension of holiday travel also meant a new sharing of leisure amenities, and more mixing among the social classes, is a different matter.

Before examining the social implications more fully, it is necessary to establish the commercial context. Entrepreneurs in London who were interested in the possibility of making money from steam navigation would have been aware of the success of operations on the Clyde (1), and had no farther to look for their own similar opportunities than the seaside resorts of the Thames estuary. A market in travel to the coast, by road or by sea where appropriate, was already flourishing. Margate and Ramsgate on the Thanet peninsula, in particular, had long been favoured summer destinations for members of the aristocracy (2). Drawn to these resorts for the sake of health and social pleasure, they and lesser members of the *beau monde* made their way there by the hundred for a month or two in the summer. The most affluent would travel in their own carriages, accompanied by their retinues of servants, while many more would go by coach, along more than seventy miles of badly maintained roads. Others would go by sailing-boat down the Thames, mostly in vessels notorious for their rough and inadequate accommodation. When steamboats were first put into service for this seasonal

traffic, they could hardly fail to impress for their greater speed and capacity, reliability and comfort. Soon similar operations were launched to serve other resorts around the coasts of England and Wales.

Nowhere else, however, did steamboat operations develop to the extent seen in the Thames Estuary. It is apparent that the numbers carried on steamboat services running from London to the Thames estuary resorts were quite exceptional. Passenger-carrying steamboat operations at even the busiest of provincial resorts were, by comparison, on an extremely small scale. One reason alone was enough to make the difference: the population of the capital, providing the market base for steamboat travel, was overwhelmingly greater than at the largest of provincial cities. London's population in 1821 was about 1.2 million, and growing rapidly, while Manchester, Liverpool, Birmingham and Bristol together totalled no more than about 350,000.

The reason for emphasising this point is that the great volume of steamboat traffic from London to just one Thames Estuary resort, Margate, (conservatively 44,000 visitors a year by 1821) (3), tends to create an impression that steamer traffic in general might be of similar intensity. But even the most popular of English resorts outside the London and Thames Estuary area did not see steamboat services on anything like the same scale. Moreover, associated socio-economic changes were not like those on the Thames. To assess exactly what the introduction of steamboat services meant to provincial resorts, this chapter looks at the experience of a number of locations.

The socio-economic changes associated with the introduction of steamboat services in England were, in general, different from those resulting from the operations in the Firth of Clyde. In particular, nothing that happened in England

and Wales could be compared with the profound consequences for parts of the Scottish Highlands. In Scotland, and especially in the salubrious and attractive locations west of Glasgow, new towns were laid out on virgin ground, to accommodate the recreational and residential needs of well-to-do Glaswegians. Disruption of local economies and alleged degradation of a way of life were associated with the steamboat's capacity to bring ever-increasing numbers out to enjoy the attractions of Bute and South Argyle. In wilder areas, the steamboat played its part in the fundamental change that opened up a remote countryside for the enjoyment of the moneyed tourist. In England and Wales, by contrast, there were no exactly similar social circumstances, and no socio-economic consequences even remotely comparable.

Summer-time steamboat services brought visitors to some of the English and Welsh resorts in greater numbers than had previously been possible, and had a direct influence on their prosperity. But in England only one seaside resort (New Brighton near Liverpool, which is described later) was created specifically in conjunction with a steam navigation operation. Above all, no English communities had their life-style changed out of all recognition when the paddle steamers arrived, as had been the Scottish experience. Nevertheless it is tempting to think that the character of many resorts was substantially affected, in one way or another, once the steamboat made travel available to more than the wealthy elite. This chapter will contend that this proposition is by no means universally applicable, and requires modification. For English and Welsh resorts, there was considerable variation, from one place to another, in the social and cultural change that can be attributed to the introduction of the steamboat.

Examination of resort history for this chapter makes it apparent that the social standing of the older English seaside resorts was largely established before

the steamboat arrived. Afterwards, once that character was formed, it may have been intensified by the steamboat's arrival, but it was not significantly altered. And did the arrival of steamboat travel, with its greatly increased carrying capacity, bring about greater mingling of social classes in resorts? One conclusion arrived at in this chapter is that the introduction of steam navigation was socially widening in that it brought the opportunity of travelling on holiday to more working people than was otherwise possible. However, in some respects it may well have been associated with intensified awareness of social division, and a more noticeable delineation of class segregation in leisure facilities, rather than with an increasing amount of mixing across the social classes.

There were very considerable regional differences in the relationship between the coming of steam navigation and the growth and social characteristics of the seaside resort. In south and south-west England for example (where the climate most favoured the development of places for summer holidays), effects were unlike those in the Thames Estuary. The key social difference was in the extent to which the wealthy visitors who arrived first were able to retain their exclusivity. It is believed that the early aristocratic arrivals in Margate, for example, felt that they had to move on, once their privileged social circles were threatened and their first choice of resort became more socially mixed. On the coasts of Devon, by contrast, the elite were able, up to a point and with varying degrees of success, to maintain the refinement and superior tone of the resorts they favoured. This result came partly from success in collectively resisting change, and partly from their different geographical circumstances, which made them less accessible to holidaymakers from the lower social ranks.

Another social point discussed in this chapter is the association between two things: these are, on the one hand, the impact of the introduction of more

accessible travel, and on the other the importance of on-going socio-cultural change that was, in any case, characteristic of this period. The question explored here is this: did steam navigation's widening of travel opportunity simply reflect a general social change that was happening anyway?

It is tempting to think that one outcome of the arrival of steam navigation would have been the creation of unprecedented opportunities for contact across the social classes. Central to this idea is the picture of the gentleman of leisure having to share deck-space with his shopkeeper, and the genteel shopkeeper finding himself rubbing elbows with a workman. Did such things happen other than in a few instances? This study will argue that, although the statistics of passengers carried suggest that many working class people were aboard steamboats on trips to Margate, this mixing was probably exceptional in seaside-resort travel elsewhere in England, at least until towards the end of the nineteenth century. Steam navigation was unarguably a primary agent in introducing a higher level of popular availability in passenger travel than had been known before. But the upper and middle classes, culturally and socially ambitious, sought to enjoy the physical pleasures of the seaside in the protective atmosphere of correct and safely ritualised patterns of behaviour. The working man would have sought something more akin to the robust fun and frolic of the annual fair and the village fete. Each would tend to choose a holiday destination accordingly.

The seaside as a focus of leisure in its modern form was uniquely a creation of the British, who put their concept of the proper seasonal holiday into the development of resorts around the coasts of England, Wales and Scotland. The cultures of most other countries, in that period, did not appear to show a similar relish for adding social amenities to the natural attractions of sea air and sea-washed beaches, and from these creating coastal resorts. In Continental Europe,

after the Renaissance it was the inland spa rather than the coast that attracted the nobility. While in Britain the pursuit of health combined with the enjoyment of social pleasure took leaders of fashion from the spa to the seaside, nothing similar happened on the Continent, until the English eventually moved to export their style of leisure and introduce the vanity of the *Promenade des Anglais* to the resorts of the French Riviera.

As the social historian John Walton put it, 'Unlike many of the more workaday innovations of British industry, the seaside holiday took a long time to spread beyond the confines of these islands ... [in Continental Europe], seaside resorts grew up as part of an expatriate British culture ... It would be interesting to speculate on why this has been so ... [and] why the pleasure pier [in particular] has been such a narrowly English (and Welsh) phenomenon.' (4). Geographical circumstances, and especially distances from cities to coasts, might account at least in part for the difference. And by the nineteenth century, the English desire to make for the seaside in summer would have been reinforced by the urge to escape from the conditions of industrial towns and cities, which developed earlier than those on the Continent.

Compared with the very considerable overall socio-economic changes of the time, and especially the growth of industry, the blossoming of the British seaside resorts has to be seen as being of small and only peripheral consequence. But these places were important for the success of early steamboat operations, for their part in the development of the concept of popular passenger-carrying transport, and for their role as focal points of temporary release from the industrial grind. The seaside resort provided the first reason for the launching of the passenger-carrying steamboat. The take-up of steam navigation in Britain, like that of much new technology, was dependent on market forces, which in this

particular case arose from personal choice in which fashion played a large part. The market for steamboat services might not have developed as it did if leaders of society, the trendsetters of their day, had not created the demand in the first place.

As in Scotland, the popularity of getting away to the coast began with the search for relief from ailments. It was fortunate for those in the upper echelons of English and Scots society that medical opinion by 1700 was extolling the tonic virtues of the spa, where a round of socially approved pleasures could be combined with a regime of curative treatment (5). By the early 1800s, when wars and revolutions made it difficult for British aristocrats to reach Continental spas, taking the cure at a domestic spa was becoming a well-established seasonal custom. The attraction for many was the enjoyment, and often the marital opportunities, of a month of social exchange in an ordered round of amusement, as much as the search for better health.

The story of how the English seaside first became linked with the spa and its associated therapies began in 1626, when a Mrs Elizabeth Farrow discovered a chalybeate spa-water spring close to the shore at Scarborough (6) (Fig. 58). Bathing in the sea there was already popular, and soon the idea was promoted that drinking seawater and bathing in it were good for all kinds of ailments. This concept spread, and newly emerging seaside resorts grew in popularity, overtaking the attraction of the inland spas. At the seaside, members of Georgian/Regency high society spent their time in much the same social pursuits as they had at Baden, Buxton and Bath, with the added sport (or the ordeal) of a dip in the sea.

Indulgence in the frivolities of the social round was evidently not to the taste of everyone of aristocratic lineage. One who found nothing sensible or appealing

in typical seaside-resort behaviour was the traveller and diarist Colonel John Byng, whose forceful opinions are useful indicators of late eighteenth-century change in the English countryside (7). The expression of his scorn for the affectations of his contemporaries, written after his arrival at Weymouth, makes a telling word-picture of high life at the seaside in 1782:

> 'all [the ladies] are expecting to drown their nervous fears and hysteric wanderings in the sea, assisted by the use of gentle dancing with soft speeches from beaux and the indulgence of polite conversation. Weymouth ... a town where the sandy shore, being excellent for bathing, has first induced the neighbours to come ... and since by fashion is become the resort of the giddy and the gay; where the Irish beau, the gouty peer and the genteel shopkeeper blend in folly and fine breeding, [and where] there is ever an abundance of the fair sex, being so well adapted for the elder ladies to get cards and company, and for the misses to procure flattery, lovers and sometimes husbands. That the infirm and the upstart should resort to these fishing holes may be perhaps accounted for; but that the healthy owners of parks, good houses and good beds should quit them for confinement, dirt and misery appears to me downright madness!' (8).

For all that Byng failed to appreciate high society's choice of pleasures, enthusiasm for the seaside watering-place grew. Every coastal town or village with suitable geographical features might look forward to prospering by attracting a seasonal tide of affluent visitors. The summer-seaside fashion spread rapidly down from the aristocrats to the socially ambitious members of the middle classes. Some increasingly spent their time sedately looking for fossils, seashells, antiquities and the picturesque, as well as indulging in sea-bathing and the formal ball-night dancing at the assembly rooms (9). In the north, Scarborough flourished at the expense of the spa at Harrogate; in the south, Brighton (where the bathing machine was introduced in 1735) was a magnet for every aspiring

buck and courtesan. But it was Margate, at the seaward end of the Thames estuary, which was soon attracting the greatest numbers of summer visitors, and outgrowing other resorts. Sea bathing was popular there from the 1730s, and it was at Margate that the 'modesty hood' was invented, an attachment to the horse-drawn bathing machine that shielded bathers from public gaze (10).

Geographical advantage can clearly be identified as the fundamental reason for the location's popularity and growth as a resort. Margate originated as a small port handling agricultural produce from the local Isle of Thanet area of Kent, which benefits from a generally sunny climate. The resort's location shelters it from prevailing south-west winds, but its remoteness was conceivably an even more important attraction for aristocrats wanting to keep their distance from the common herd. Its position at the extremity of the Thanet peninsula (see Fig. 59), well out towards the North Sea, would have given Margate something of a maritime ambience, which the visitor from London could enjoy without having to risk the trials of a real open-sea voyage.

Ambitious resorts such as Margate were quick to copy the features of the spas. Hot and cold bathing facilities, sheltered promenades, raised pavements and, above all, assembly rooms suitable for dancing, were installed. The standard of excellence in ballrooms was set by those at Brighton, which were built in an Adamesque style that 'reflected the change from Hogarthian coarseness to a Beau Nash [of Bath] standard of decorum.' (11). Though few resorts could match that kind of opulence, many adopted a pattern of social organisation like that of Brighton, where from 1767 until about 1800 the egregious Captain Wade held sway as master of ceremonies over all social activities, as Beau Nash did at Bath (12). Much of a resort's social life was centred on its circulating library, which functioned as a club where people could meet, gossip, write letters and make up

parties for card games, in which gambling was endemic. A constant adjacent attraction was the sea; Brighton in its Regency heyday may have been noted for upper-class scandal, and Weymouth not far behind for the frivolities of Byng's 'giddy and the gay', but the image of the typical resort of the time is probably equally well reflected in the 1813 painting by Daniell of the seashore at Southend, with its emphasis on beach, sea and bathing machine (See Fig. 62).

Guidebooks and 'companions' were published for most resorts, and some of these reveal expectations about social conformity. One of the most comprehensive, the 1809 *Picture of Margate,* set out in great detail the rules of procedure for the social season, which began on the King's birthday (4 June) and ended with the final ball-night in October. Instructions for behaviour when joining the dancing closed with the admonition that '*Deviation gives offence, and the master of ceremonies will see that rules are strictly obeyed.*' (13).

The fact that a handbook detailing rules and guidance on behaviour could be purchased by the visitors on their way to the resort might indicate that in 1809 Margate was still catering for some of the top people. Perhaps more probably it reveals that the resort must have been patronised by many less socially confident middle-class visitors, who would be glad to have advice on how to conduct themselves. Social protocol at Margate was, however, not so refined and restrictive as at the notably snobbish Brighton. There, no newly arrived visitors were permitted to join the privileged circle of subscribers for the season until the master of ceremonies had called at their lodgings to check on their gentility (14). In passing, it must be pointed out that Brighton, though the leading seaside attraction for many Londoners for more than a century, was exceptional in being a resort where the road (and later the railway) provided all the travel access from the city that anyone needed, and the steamboat had no role in its development.

Before long, Margate began to suffer social decline. Some historical studies appear to suggest that the arrival of steam was to blame, but there is evidence that the resort's loss of refinement began well before the steamboat's arrival. To quote one observation: 'Thames ... steamers were started in 1815, and Margate followed in 1819. In 1820-1 Margate pier handled nearly 44,000 passengers, over twice as many as eight years earlier [before steamboats]. The social tone fell, and it became a vulgar, middle-class sort of place – though not yet working class.' (15). That is true in general, but not entirely so if it is intended to mean that the arrival of the steamboat was the crucial turning point. Paddle steamers did bring visitors on a scale not possible by sail, and the numbers packing the resort would have significantly disrupted the resort's tranquility. According to a 'Pocket Companion' of 1831, 'in 1802, a total of 20,000 summer visitors was usual ... ; during the season of the year 1830, 98,120 persons landed from the London steam-vessels on the pier at Margate.' (16). But by many accounts Margate was 'vulgar' well before then, and already the subject of adverse comments about its lack of social refinement. It certainly does not appear to be the case that Thames-estuary steamboat services brought many hundreds of the wrong kind of people to an unspoiled, refined and exclusive resort. Rather, the large numbers of people they brought would have been going to a place already popularized. The loss of the exclusivity needed to retain the custom of the carriage trade appears to have started a number of years earlier.

Increasingly easy access to Margate from London was undoubtedly the root cause of its great popularity, and with easy access comes loss of the exclusivity that equates to the top people's ideas of refinement. It is difficult, however, to know just what the specific symptoms of social decline were. 'Margate in the 1780s was ... under fire as "devoted to gaiety and dissipation",' was one comment (17). The resort history *Margate 1736-1836* says that Margate was 'in several

respects the first seaside resort to become "popular" in the widest interpretation of that term; [it] soon emerged as an exception to the rule that spas and watering-places were exclusively for the upper classes.' (18). That more than a select few were going to Margate well before the turn of the century is implied in a guidebook of 1763. Under the sub-heading 'hoys', it opined that 'were it not for the assistance of these vessels, it would be almost impossible for Margate to furnish entertainment for the vast number of people who resort to it.' (19).

Was it sheer numbers that made the social tone of a resort fall? If that were the case, then the greatly increased passenger capacities of steamboats, when they arrived, could undoubtedly have been a cause of further decline. Also, it is not possible to be sure that a reputation for 'gaiety and dissipation' would be a disadvantage; that might be just what the more rakish were looking for. If Byng's critique of aristocratic Georgian/Regency behaviour at resorts like Weymouth is anything of a guide, the 'gaiety and dissipation' of his comment would hardly be objectionable to those accustomed to the leisure activities of high society. In all probability it was Margate's accessibility, with a pier from 1820 to make landing easier, rather than the coming of steamboats, that made the place what it was. As a general principle relating to places of leisure, remoteness and difficulty of access equated to exclusivity, and thus desirability, for those who could afford the cost of getting there. If the many could get there, the elite would want to move on.

When the more sensitive of the upper classes found, quite early on, that Margate was becoming too popular with the middle classes, their first refuge from the crowds was to go on to Ramsgate, on the Thanet coast but on the south-eastern side of the North Foreland. Road-coach services covered the short distance between the two resorts, timed to match steamboat arrivals and departures.

In the 1830s the social distinction between the two places was well enough known to be satirized by Charles Dickens, in his sketch *The Tuggses at Ramsgate.* Having come into a fortune, Mr Joseph Tuggs, a grocer, decides that the family must take a holiday. Where? Gravesend was discounted as *low,* Margate was worse – 'nobody there but tradespeople'. Brighton was rejected through fear of accidents on the road, but 'Ramsgate was just the place.' (20). The locations of the two places are shown in Fig. 60, with the local roads across the peninsula being based on those in maps published in the mid 1840s.

The social differences between Margate and Ramsgate seem to have been established well before the steamboat era. One guidebook, published in 1815 but clearly written before steamers came on the scene, compared the appeal of the two resorts, and gave reasons why Margate was more popular than Ramsgate: 'It [Ramsgate] is never likely to supplant that favourite place [Margate], the point of land between them being sometimes weathered with difficulty ... [Ramsgate] wants many of those attractions which draw the young and gay to its neighbours, particularly a good theatre.' (21). But amusements like those available at Margate were, it seems, not what the quieter and more discerning visitor was looking for. The 1834 edition of *Coghlan's Steam-Packet and Coast Companion,* published when steamboat travel was well into its stride, said about Ramsgate: 'The visitor must not expect in this place the bustle and gaiety, or tumult of pleasure, which Margate affords. The company which resort hither [to Ramsgate] have the reputation of priding themselves on being *select;* and, certainly, the visiting society would appear to be chiefly composed of families known to each other, and tenaciously preserving their domestic circles from the intrusion of promiscuous sojourners. All suitable means of amusement are provided for the truly respectable company.' (22).

The place that eventually became the great rival of Margate for the Londoner's day at the seaside was Southend, on the north side of the Thames Estuary. The origins of Southend show how the English predilection for going to the seaside presented money-making opportunities for those with property at the right kind of location. Southend did not become a resort by chance, or through an initiative from London; it was conceived and built for local commercial gain. In 1768, 'a scheme was set on foot to make Southend, the southern extremity of the parish of Prittlewell, a resort for sea bathing, "the situation being esteemed the most agreeable and convenient for the purpose on the Essex coast".' (23). No record to identify the promoters of the scheme has been found, but local landed interests would certainly have been involved. The location of Prittlewell village and that of Southend are shown in Fig. 61; an idea of Regency society at leisure there half a century later can be seen in the Daniell aquatint reproduced in Fig. 62.

When the resort at Southend was built, the idea of a seaside location being developed specifically as a holiday centre, and as an investment opportunity, was largely unprecedented. During the following hundred years, the financial potential of the right kind of coastal location became increasingly apparent. One indication of the growing size and value of seaside-town development is that it increasingly attracted the attention of the great landowners. Although the largest examples of aristocratic investment in seaside towns did not come until the mid-Victorian years, some were in evidence well before 1850. The inducement for the entrepreneurial landowner to switch his interest from the city to the spa and the seaside town is described by David Cannadine:

> 'The sheer size and diversity [of the great provincial cities] necessarily limited the real power which the aristocracy could wield ... By contrast, the seaside towns were much smaller, had come into being more recently, were more dependent on

> landowners' finance and enterprise, and so tended to offer greater scope for the wielding of aristocratic power ... By the early nineteenth century, aristocratic involvement in the making of leisure towns was nothing new. The Georgian spas had in some cases been the product of an aristocratic initiative [as well as being designed for an aristocratic clientele] ... When fashion drifted away from Bath and other spas, to seaside towns like Brighton, Hastings and Scarborough, further opportunities opened up for an aristocracy already familiar with ... leisure-town creation.' (24).

At Southend, development seems to have been slow, because it was not until 1793, twenty-five years after the first proposals for its creation, that a hotel and a Royal Terrace to accommodate visitors were completed (25). It is possible that local entrepreneurs had under-estimated the importance of one disadvantage of the location, which was an extremely flat shore, preventing boats approaching closely to off-load passengers and their luggage. Early piers there were inadequate, and for years holiday-makers disembarking had to endure the indignity of being carried ashore by sailors. Probably because the shore was so flat, Southend was late in attracting a steamboat service from London, and it was 1819 before 'a very important addition to the transit facilities was inaugurated, and steamboats began to ply.' (26). Until then many visitors from London preferred to come by road coaches, which ran daily from 1794 (though the top people would use their own carriages).

A view of the resort as it was in the 1830s, showing what appears to be the Royal Terrace, is reproduced in Fig. 63. In this, a steamboat can just be made out at the end of the rather primitive earlier pier. A considerably later engraving, made in 1872 and showing a much longer pier (Fig. 64) suggests that at least that part of Southend then retained an air of refinement, suited to the most sedate

outings of middle-class Victorian society. Both views are worth comparing with the 1813 aquatint of the beach by Daniel, shown in Fig. 62.

All in all, it appears that Southend in its earlier years simply did not live up to the expectations of its promoters, who must have hoped for a large-scale summer-time invasion by Londoners. It was considerably nearer to London than the Thanet resorts, which would have made it a cheaper place to visit. But only late in the century, after the first direct rail connection was made in 1888, did Southend bloom into large-scale popularity. The 1872 engraving (Fig. 64) suggests that even in the eighteen-seventies there was not a great deal of popularization. From this limited evidence, it is not easy to assess what social significance the steamboat had for Southend. By the later years of the nineteenth century, a steamboat trip there from London was a popular outing for its own sake, rather than as the best way of getting there. The feature of Southend for which it ultimately became famous was its concentration of fun-fair attractions and amusements for Bank-Holiday crowds; but these came right at the end of the century, and by then it was the railway that brought Londoners in their thousands.

One virtue of the English seaside resort as a subject for historical study is that the descriptions of bathing machines and instructions on how to swim, the card-playing and the popularity of the lending libraries, and of the ball-nights in the assembly rooms, say much about the rising expectations of the middle classes. As Paul Langford observed, they had now found a place that gave them leisure of a style akin to that of the aristocracy:

> 'Between fashionable society with its ritual divisions of the years and its court-orientated timetables, and the despised fairs and holidays of the lower sort, there was a considerable gap ... which the new resorts filled with immense success and

> profit. Essentially middle-class urban living transported temporarily to new surroundings, the bourgeois equivalent of the aristocratic retreat to the country-house life. Their underlying basis was the generally felt need for distinctively middle-class recreations.' (27).

Above all, the rising middle classes were concerned not to lose social status; as Langford also says:

> '... it was the constant fidelity of the middling sort to the fashions and habits of their social superiors which sustained the commercial viability of leisure and luxury, while maintaining the impression of a dominant and patronizing aristocratic elite.' (28).

In the context of investigation of the extent of downward spread of holiday leisure, it is worth bearing in mind that this concern of the middle classes for their own status was part of a view of society in which the great mass of the ' working poor' was, for most educated persons, like a separate species.

Around the country, other resorts for sea bathing sprang up rapidly after the middle of the eighteenth century. Some of these have long ago faded out of sight or been absorbed in suburban growth. One such was that at Runcorn, eventually overwhelmed by the spread of industry, where late eighteenth-century residents of Liverpool went for a breath of fresh air and to bathe in the tidal waters of the Mersey. It was still suitably rural in 1834, when one local historian wrote: 'Runcorn has always been celebrated for its situation ... romantic and picturesque scenery ... the advantage of salubrious air and a mild temperature ... well suited for invalids of a strumous [goitrous] habit ... inferior to none for the invalid and the valetudinarian.' (29). Though Runcorn is only some fifteen miles or so from the centre of Liverpool (Map, Fig. 65), the convenience of travelling there by

steamboat, instead of using indifferent roads and a ferry, must have been welcomed. In 1822, the service was advertised, along with the opening of *Runcorn New Baths:* 'On beach, warm baths, showers, dressing rooms etc. A steam-packet sails to and from Liverpool every day, at 2 shillings [10p], and there are several handsome and commodious Packet Boats navigating the canals to Manchester.' (30). The Mersey at Runcorn is tidal, so visitors could bathe in seawater, from a clean sandy beach. 'Large numbers of people retired thither from the hum and noise of the city, to benefit by its river breezes. Belvedere Terrace was built [there] in 1831, with the special view of accommodating visitors who might be in search of change and repose.' (31).

It might be expected that Liverpool and Manchester would have welcomed steamer services running out to coastal seaside resorts, but the amount of holiday steamboat traffic in the area was relatively small. One local historian commented: 'Liverpool, having a worse river communication with the interior than any other English port, did nothing of consequence by means of steam, until steam began to be applied to the navigation of seas and the ocean.' (32). In references to Liverpool steamboats in the 1820s and 30s, the greatest attention is focused on services to north Wales and across to Ireland. In 1821, the *Cambria* steam packet started summer voyages from Liverpool to Bagillt, a small landing-place on the coast of Flintshire that gave access to the Chester-Holyhead road (Map, Fig. 66). These steamer routes were extended in 1822 to Beaumaris, Bangor and Caernarfon on the Menai Strait (33). At the time it was the very considerable commercial value of this new means of communication with north Wales and Ireland (discussed in chapter 7) that aroused the greatest interest, rather than the leisure potential – a contrast with the situation on the Thames, where the holiday potential launched the first steam operations and kept them busy.

The absence of a good navigable river running to Manchester was one practical reason for the lack of steamboat services for leisure, or of the kind that sprang up on the Trent for local business communication (34). Moreover, there was no leisure market in Liverpool comparable to that in London, where a vast and prosperous population, with access to nearby resorts, spurred the creation of a thriving business in holiday travel. The populations of Liverpool and Manchester, though growing rapidly, would not present a market on anything like the scale of London's (35). Further, Liverpool's dependence on maritime commerce not only focused attention on sea crossings, but also on the development of steam-powered tugs for towing sailing ships out of harbour (36).

For communication with adjoining areas, Liverpool was awkwardly placed, as the maps in Figs. 65 and 66 show. The city lacked a good waterway to Manchester, and the only reasonable way to reach Chester was via a ferry to Eastham on the south side of the Mersey estuary. As it happened, the resort at Runcorn was linked by water to Manchester when the Bridgewater Canal was extended to the Mersey there in 1767. A popular way to travel from Liverpool to Manchester after the early 1820s was to take the steamboat to Runcorn, and there transfer to a horse-drawn 'swift' canal boat for the remainder of the journey (37).

The most natural recreational places likely to attract the gentry of Regency Liverpool were on the coast to the north, towards Preston, and along the north coast of Wales. In the latter direction, steamer trips to Rhyl were popular by the 1820s, but the biggest development of resorts along this coast came when the Chester-Holyhead railway line was built in 1840 (38). At Southport to the north, development was initiated in 1820 by the Lancashire land-owning Hesketh and Scarisbrick families, and a promenade built in 1830 (39). But the growth of this

resort came largely in the latter part of the nineteenth century, when railway trains provided fast travel from Liverpool, and is outside the scope of this study.

Farther north again, the firm and safe twenty-mile-long stretch of sands of the Fylde coast (Map, Fig. 67) was the natural attraction on which Blackpool, eventually to become the flamboyant queen of seaside resorts, was developed. Blackpool has no history of early association with the steamboat. It is nevertheless of special interest for the evidence it provides about the powerful attraction of the seaside, and of the determination shown by industrial working people to experience its pleasures and benefits.

At the beginning of the nineteenth century, Blackpool consisted of little more than a few cottages. The story of the resort's early years is detailed in *The History of Blackpool* (1837) by William Thornber (1803-85) (40). It was not until the 1820s that the locality became known for its health-promoting atmosphere, but in that decade the scale on which summer visitors began to pour in from the Lancashire mill towns became a topic of local wonder. The year 1827, Thornber wrote, 'was remarkable for the immense numbers of strangers who visited the coast, ... [and] such vast numbers of carts and other conveyances passed through Preston [for Blackpool] from Blackburn, Burnley, Colne, Padiham, and the borders of Yorkshire as to excite surprise.' (41). These 'strangers' were not by any means from the middle classes, but apparently all representatives of the 'labouring poor'.

Thornber's account is evidence of the way that Blackpool grew straight into large-scale plebeian popularity, without experiencing the social grading that characterized many other resorts. Even more significantly, it provides hard evidence, generally lacking elsewhere, of the determination of the working poor of

those times to have a holiday, a breath of sea air and a taste of seawater, regardless of the difficulties of getting there. The most significant feature of this notable influx is recorded in a footnote, where Thornber says: '... these Padjamers [i.e. people from the mill town of Padiham] ... form themselves into clubs, by weekly contributing to which they are enabled to visit the sea-shore. They journey in wagons, taking it in turns to ride ...' (42). At night, as many as sixteen persons would share one bed, in shifts, in conditions reminiscent of those accepted by Glaswegians at Rothesay (43). Blackpool soon became a place that Walton called 'the world's first fully-fledged working-class seaside resort.' (44).

Although there was no social progression from elite to middle and lower classes in evidence at Blackpool, cultural division over the enjoyment of facilities later operated there in a conspicuous fashion. A central feature of the resort was the first of its piers, which by the 1860s was already a great attraction for promenaders. At the Whitsuntide weekend, and in July and August, this pier was inundated with trippers, and it was claimed that 'respectable visitors would not go upon the pier [when] the excursionists were there'. Partly in response to this problem, a new and cheaper South Jetty was built, where 'from 1870, its cheap steamers and open-air dancing to cheap German bands ensured its popularity among the swelling throng of working-class visitors.' (45).

By the time that this form of discrimination, cultural as much as social, was operating at Blackpool, piers at many places were being developed into seaward extensions of the promenade, for relaxation and entertainment. The first function of nearly all piers was, like that at Southend discussed earlier, to provide access, and the growth of steamboat passenger services to and between resorts became an important factor in the original decisions for their construction. The first pier intended expressly for pleasure and entertainment is believed to be that built at

Southport in 1860. But until the 1840s, most piers such as those at Margate, Herne Bay, Brighton, Worthing, Bognor, Scarborough and Bridlington were primarily functional, designed simply to provide access (46).

The example of Blackpool confirms again that conflict between the social classes over the use of facilities was more readily dealt with by segregation than by mingling. Nor was this apparent only on Blackpool's piers: while the resort grew as the favourite cheap-and-cheerful destination of the working-class holidaymaker, the more fastidious middle classes preferred to holiday (and to retire) at the quiet neighbouring resorts of Lytham and St Anne's (47).

There is no record of early steamboats playing any significant part in the origin of these west-coast resorts. The population of Liverpool nevertheless must have represented a potential market for the entrepreneur looking for an opportunity in combining resort and travel. In 1830, a Liverpool merchant, James Atherton, bought 170 acres on the shore of the Wirral peninsula, and laid out a holiday and residential resort called New Brighton (map, Fig. 68). To ensure that visitors had no difficulty about access, Atherton also established his own paddle-steamer ferry service, which ran from the opening of the resort in 1833 (48). New Brighton continued to flourish as an attraction for Liverpudlians, handily close to the city for a day out via the frequent ferry service, until after the 1950s. It was not the only resort in England to be founded on undeveloped land (Westward Ho! and Woolacombe in Devon were others), but the only one to be built in conjunction with the launch of a purpose-made steamboat service.

The manner in which accommodation of early steamboats was set out gives some pointers to the social-class characteristics of the age. Since most of the first generation or two of passenger-carrying steamboats were designed on a two-

cabin, two-class basis of accommodation, it is easy to think of this class division as being much the same as the 'inside' and 'outside' accommodation of the stagecoaches, with fares priced accordingly. Instead, it is more likely that early steamboat operators, either on their own initiative or following Scottish experience going back to Bell in 1812, were aiming their higher-priced accommodation not at the equivalent of the better-off of the stagecoach passengers, but at those aristocrats and gentry who would not dream of travelling with strangers, but made all their journeys in their own carriages, or failing that, in hired post-chaises. This presents another reason for the noticeably high standard of accommodation in the first passenger-carrying steam vessels, which has been discussed earlier.

Information about the social effects of increasing travel on early seaside resorts can also be derived from accounts of the journeys of the aristocracy. John Byng again is a useful source. Because Byng was a determinedly solitary traveller (so long as he had his manservant with him), it is easy to think of him exploring a land empty of all human beings except local landowners, local clerics, and local 'peasantry', as he would call them. However, it becomes apparent from his diaries, written in the 1790s, that scenically attractive parts of the countryside were fairly teeming in summer with parties of his social rank, moving around like modern tourists. At Corwen, put out at finding the inn occupied by Sir John Lambert 'and suite, in great pomp and parade', Byng declares: 'Why, what a folly is all this. Wales and its inns will be soon ruined by such foppery ...' (49). At Bala, (which he had found a tranquil place ten years earlier), 'now post-chaises are kept, and the racket of travel is come amongst them so much ... as many people are hurrying to the watering-place of Barmouth'. Byng also noted other effects: 'Within these ten years there seem'd an alteration in the manners of the people. Thence the curiosity of travel is half undone.' (50).

In the summer of 1793 when that was written, nearly a quarter of a century before the introduction of steam navigation, the fashionable passion of the English aristocracy for going to look at the picturesque and the sublime in remote places was running strongly, and Byng's references make it clear that aristocratic travellers were regularly patronizing seaside resorts. Besides his mention of Barmouth and his comments about Weymouth, Byng also referred to the quality of other resorts when he came by them, rating them on their appeal for holidays and residence. Hythe in Kent, he said, was 'a good station for sea-bathing and retirement' (51), and Hastings 'a bad shore for bathing, tho' there is always a summer company there.' (52).

It is useful at this point to summarize the chronological order in which the holidaymaking invasion of a typical resort changed. First were the aristocrats, travelling in their own carriages and bringing their own servants. The original spa-like facilities installed for these visitors would establish the basis of the resort. Secondly, around the last quarter of the eighteenth century, came incursion by the upper middle classes, trying as far as possible to emulate the behaviour of the *beau monde*, and some of the wealthier no doubt hardly distinguishable from them. Then, after 1815, the first of the steamboats, bringing more middle class visitors who are set on keeping to the formalities of baths and assembly-rooms; and finally (starting in the decade or so before 1850) steamboats (and trains where available) bringing the full spectrum of middle classes, and increasing numbers of the better-paid artisans and working people.

In the first stage, distance did not matter much; aristocrats could afford to go wherever fancy or fashion took them. After that, the development of a seaside resort would depend on further criteria: a large enough customer base, which would require participation by the middle classes; and reasonable access.

Advertised fare prices can be a rough guide for determining who would go to resorts; at Runcorn the 2 shilling (10p) fare would have been easily affordable for many of the middle class with incomes in the 'typical' £300 a year range, and probably affordable for those with incomes of £150 (53). A continuing question, however, arises about steamboat travel for the great mass of artisan-class workmen. The sheer numbers known to travel on special occasions suggest that a good many of at least the artisan class must have been included. Even before the middle of the nineteenth century, large numbers of the 'lower' classes were going to the seaside, and influencing changes to more popular types of amusement when they were there. This is apparent from so much anecdotal evidence, typically like that from Nathaniel Hawthorne's comments about the 'unwashed' thronging to places of interest (54). What were the characteristics that enabled the poorer sectors of the population to have their share of seaside enjoyment? The answer almost certainly can be seen in the example of William Thornber's mill-town workers intent on getting their taste of the sea at Blackpool, discussed earlier. In the face of an almost visceral desire for fresh air and a taste of sea water, difficulties about raising the fare were probably insignificant, and could be countered by carefully saving up for the big occasion. This is another factor that helps to support the conclusion that some, perhaps a good many, of the passengers on holiday steamboats were indeed of 'working class'.

A survey of the English coastline for likely places for the early introduction of travel by steamboat must include the Isle of Wight and the Solent, an area that would seem to invite investment. Cowes, almost directly across the Solent from Portsmouth, had become a fashionable seaside spa by 1800, attracting wealthy visitors who travelled across by sailing boat. But potential operators seemed to hang back from launching the obvious steam-powered ferry. In 1815 the local press said that 'projectors of steam boats are contemplating an Isle of Wight

service.' (55). This might have meant nothing more than interest aroused by Dodd's call at Portsmouth in the *Thames* on his way to London (56). An early steamboat, the *Britannia,* operated between Portsmouth and Ryde (where a pier was built in 1813-14) for a short time in 1817, but it was 1820 before the first regular service, a Post-Office packet from Southampton to Cowes, began (57). Interest in passenger steamboats in the Solent area was then focused more on their capabilities for making pleasure trips than on running holiday-maker's travel services. The first steam excursion round the Isle of Wight was made by the *Medina* in 1823, and a special trip from Southampton to Portsmouth, for the Portsdown Fair, was run in 1824 (58). This and similar excursions in the 1820s were early examples of the type of steamboat operation that was to become, by the end of the century, one of the standard components of amusement at the Victorian seaside resort – the pleasure trip along the coast, in the steamer that called at the end of the pier.

In the west country (map, Fig. 69), wealthy seekers after health and amusement at the spa were turning to the seaside while Bath was still in its heyday. In 1750, the well-to-do of Exeter were making the short journey to Exmouth for 'diversion' and bathing in the sea. Nearby Dawlish was becoming established as a watering-place in the 1770s, and by 1776 was 'entertaining company resorting hither for the benefit of bathing and drinking the waters'. Bathing machines lined every suitable beach, visitors being vigorously 'dipped' from them as a matter of course. When Fanny Burney (Frances, Madame d'Arblay, 1752-1840) visited Teignmouth in 1773, she was said to have been 'terribly frightened' by the treatment, which many invalids found an ordeal (59). A boost to the development of Dorset and Devon resorts came after the Continent was closed to the English traveller in 1789. The mild south-coast climate encouraged the start of a winter season. Above all, the cachet of noble patronage

was valuable for the status of a resort; in October 1789 the *Exeter Flying Post* boasted of the 'seven carriages with coronets' then gracing the purlieus of Teignmouth (60).

On the north coast of Devon, the cult of the picturesque and the sublime attracted visitors to its more rugged coastal vistas. Access by road was difficult, but the wealthy seeking the combination of sea bathing and unspoiled coastal scenery were, to judge by local guidebooks, accustomed to the idea of making the long journey from the Bristol area by road. One of the most fully developed resorts on the north Devon coast in the eighteenth century was Ilfracombe, and according to some sources, 'families of distinction' came there by steamer in the 1820s, making use of the steamer services that ran from Bristol along the north Devon coast (61).

It is noticeable that the travel information in the guidebooks for Ilfracombe in the 1830s concentrated on road-coach services; the steam-packet services are given only perfunctory mention. In Banfield's guide of 1836, for example, there are three pages detailing coach services (e.g. the Barnstaple-London *London Mail* 'passing through South Molton, Bampton, Wivelscombe (sic), Taunton, Bristol' etc, leaves 'every morning at half-past seven o'clock, and arrives London at six the following morning'). There is only a brief note about travel by sea, which says: 'Steam packets ply Ilfracombe to Bristol, and Ilfracombe to Swansea.' (62). An 1841 edition of the same guide has the additional information that 'The Cornish and Bideford steamers call [at Ilfracombe] on their passage to and from Bristol.' (63). This suggests that for the typical Ilfracombe visitor, the coach or carriage on the road might still be considered the right and proper way to travel, retaining more social status than the new-fangled steamer.

Ilfracombe possessed appealing natural features, and in 1836 'hot and cold baths [have been] erected near the centre of the town. Tunnels lead from the baths to the beaches'. A lending library (Banfield's) with reading rooms, open to guests by (moderate) subscription, had been established in 1823 (64). The opening-up of north Devon coast resorts followed quite a long time after those on the south coast were established, because access was much more difficult. Here is one instance where the arrival of steam navigation must have been important for a resort's continuing prosperity, but not until close to the end of the nineteenth century could it be said to have had any great influence on the social class of visitors. The tone of Banfield's guides suggests that in the 1830s they were still addressing an upper-class clientele.

When Brunel's railway from Paddington reached Bristol in 1841, the market for travel to places like Ilfracombe was significantly widened, but even then only to those of the middle classes willing and able to afford the long journey by rail and sea from London or the provincial cities. Although steamers began taking day-trippers from South Wales to Ilfracombe and on to Lynmouth in the 1840s, these apparently were then few in number, and caused no great anxiety about lowering standards for the established resort users (65).

Later in the nineteenth century, large purpose-built excursion vessels began to bring working-class holidaymakers from the industrial areas of South Wales. These now introduced a significant social threat. In order to keep the labouring classes out, Ilfracombe passed by-laws banning excursions on Sundays (the only day of the week when workers could travel), so it was only on Bank Holidays that residents there had to face a plebeian invasion. For the same reason, Lynton and Lynmouth opposed the construction of steamer piers. In these instances of opposition to working-class invasion, there are similarities to the efforts of

Scottish lairds to keep out trippers from Glasgow, described in chapter 3. On the south coast, Devon resorts were out of range of excursion services from large centres of population, and thus remained sedate, select and highly respectable until after the nineteen twenties – Torquay in particular continuing to attract 'the cream of society.' (66).

It was after the middle of the nineteenth century, and therefore strictly speaking outside the parameters of this study, that steamboat operations serving these resorts of the west country were associated with any significant social consequences. In this there was an undoubted causal relationship, identifiable from the reaction of people in a section of society, who were saying that steamboats would bring in the kind of people who would spoil the quality of their community, and therefore they should be stopped or restricted. But how typical was this of the rest of society? Were these effects from the coming of the west country steamer simply reflecting social changes and attitudes that might have been taking place anyway? In the case of these resorts, the upper-middle-class residents and summer visitors there would no doubt have seen the steamer itself as a carrier of blight, regardless of general change as far as they were concerned. As John Walton put it: ' The seaside resort was important ... as a crucible of conflict between classes and lifestyles, as wealthy and status-conscious visitors competed with plebeian locals and roistering excursionists for access to ... amenities, [bringing] mutually incompatible modes of recreation ... into close proximity in ways which seldom happened inland.' (67). Middle-class resentment might also have been exacerbated if it were thought that the working man, enjoying a release from inhibitions by being on holiday, was behaving as though he thought himself as good as his master.

Competition for amenities varied from one resort to another. At a small Devon resort, the disembarking of a single excursion steamer full of workers looking for a good time would have had an alarming impact. But would they have found much to interest them in a place laid out for the sedate leisure of retired Army officers from India and their ladies anyway? Day-tripper excursions were not likely to head for the smaller, quieter resorts, but for larger ones with facilities for amusement. In the largest, there was room for the roistering excursionist at one end, and the respectable middle-class family at the other. The two piers at Blackpool presented one instance of this type of social differentiation. In effect, a similar differentiation occurred at the three adjacent towns of Margate, Broadstairs and Ramsgate, which might be regarded as a single resort. Steamers dropped those looking for beer and a bit of a romp at Margate, and took those anxious about respectability round to Ramsgate. But in all this, it is important not to overlook commercial motivation. Owners and operators of steamboats would not be interested in social differentiation, but in filling their vessels with passengers. Entrepreneurs would tend to go where the demand led, thus reinforcing the tendency for resorts popular with 'the many' to build up the fun-fair type of amenity, in turn attracting more of the boisterous crowds and deterring those looking for more sedate pleasures.

Apart from local defensive action (as taken at Ilfracombe and Lynmouth) to prevent the lowering of a resort's tone, geographical circumstances helped to preserve amenities. Difficulty of access from centres of population 'set the Devon watering-places apart from the more popular seaside resorts in other parts of England, limiting growth but safeguarding their select character.' (68).

The origins and growth of the seaside-spa leisure concept can only be described as remarkable. Right from the middle of the eighteenth century, the

aristocracy and gentry of England were willing – determined might be a better word - to spend large amounts of money on the summer-season fashion of the day, and enjoy themselves by the sea. The link between the reputation of seawater and its capacity to cure the ills brought on by their self-indulgence made a powerful incentive. The extent of leisure travel by members of the upper set with their suites of attendants, the birth of so many seaside towns, and the rush to provide facilities for the lordships' amusement, made for an unprecedented national social phenomenon. Remarkably, all this was happening with an apparent disregard of the state of the country. None of the problems that the British government was agonising over in those years (69) appeared to disturb the summer-season leisure pursuits of the gentry and aristocracy, and it can only be supposed that the wealth coming into their hands from a greatly expanding economy insulated them from worries about international affairs. Spas and the seaside clearly had a powerful attraction, a fact that is highly relevant to the speed of take-off of the market for steamboat leisure travel two decades or so later.

By the eighteen forties, the summer steamboat had become a common sight at many of the resorts, and investment in seaside town development by aristocratic landowners was widespread. Development of seaside towns at this time has been described by the historian David Cannadine. At Folkestone, the Earls of Radnor bought land from 1697, although development did not begin there until 1807 (70). At Torquay, the Palk family (later Lords Haldon) bought a seaside estate in 1768; Bournemouth was largely planned as a holiday town by Sir George Tapps-Gervis from 1836 (71). Southport, the summer attraction for the businessmen of Liverpool, was another creation of wealthy local gentry. With aristocratic investment and patronage, it is not surprising that the more select resorts acquired an upper-class tone, which would be vulnerable to social change if this exclusivity were to be lost. In his description of the nineteenth-century

seaside resort, Cannadine identifies the characteristics of the more select places that would make them resent the possibility of steamboats bringing in lower-class visitors to spoil their way of life:

> 'Physically distanced from the great centres of population, overwhelmingly middle class, and with the lower orders mainly retinues of servants - segregated middle-class suburbia at its most extreme, transported to a coastal location. The defence of property and respect for the established order were deeply rooted in these ... middle-class communities with an aged and leisured population.' (72).

From the beginning of this study, it has been emphasised that the commercial application of steam navigation originated with, and continued to thrive on, the desire to enjoy leisure. In this chapter it has been possible to explore this theme more fully in the context of the English seaside resort; conclusions about some of the questions posed can now be put forward for discussion. On the influence of steam navigation for the development and social character of seaside resorts, it must be remembered firstly that most of them began as summer-season social clubs for high society, with amenities centred on the tonic and therapeutic aspects of drinking and bathing in the water. Exclusivity of membership was vital for preserving cultural tone and quality. For a time, the cost of access helped to preserve that exclusivity. Once the steamboat brought access within the reach of the many (even if at first they were no lower than middle-class aspirants to the lifestyle of the aristocracy), one barrier protecting exclusivity was breached, and the sequence of steps towards popularization was begun. In this way, the steamboat undoubtedly was an instrument of social change for many resorts.

But as this chapter has elaborated, that sequence was not always followed. Margate, as the prime example, was popularized and thus anathematized in the

eyes of fashionable society well before the arrival of steamboats. A second important point about changes in cultural ambience is that, by and large, people go for their pleasures to places that have the facilities best suited to their ideas about enjoyment. In places such as Teignmouth and Ilfracombe, the fears of the established first-comers about a lower-class invasion might thus have been misplaced, even though they would have been none the less real for that. Any early steamboats calling at such places would have brought middle class holidaymakers, while in due course the excursion steamboat full of factory people would probably have headed for somewhere less strait-laced. In Margate, long popularized and therefore unredeemable, flight was the answer – early-arriving upper and middle classes moved to Ramsgate, or beyond. In places such as Teignmouth, steeped in their middle-class refinement, the response of the privileged was to stay and fight, using legislation to limit access (73).

A more difficult question is that asking how far steamboats extended leisure travel down the social scale. An initial view of this has to be that there is little evidence positively identifying the working man as an undoubted passenger on the seaside steamer. However, reports show that so great were the numbers of people thronging the steamers to places such as Margate, that it is hard to believe that these did not include substantial numbers of the lower orders (74). Also, it is now possible to make a judgement that takes into account the strength of the desire and determination to enjoy a seaside holiday shown by the industrial working man. This need to escape for a while to the sea would have been as powerful among city clerks in London as it was for the Lancashire mill workers who were determined to have their few days in Blackpool. A reasonable conclusion is that once steam-powered travel had reached a substantial scale of activity, it conferred on the wage-earning lower classes the option of participating in an activity that previously would have been out of the question.

In order to assess whether the opportunities for travel opened up to the lower orders were simply part of general socio-economic change, it is worth comparing the experience of the working man with that of the member of the middle class. With the introduction of steamboat travel, access to leisure travel was rapidly increased for the middle class; they could seize the chance to travel more readily than before to the seaside resort, where they would adopt the pattern of formalized leisure established by the gentry. However, this travel opportunity might well be seen as part of the growing material enhancement of the middle-class quality of life that was happening anyway. For the 'working poor' in the population, to join with thousands of others in bank-holiday steamboat outings was an experience beyond comparison with any other life-style improvements that might have been coming their way. It would be difficult to deny that exploitation of the new technology was responsible for this component of social change.

Finally, there is another question that is worth asking, for the further information it gives about class behaviour. It is simply this: What did everyone do on their holiday? Guidebooks provide part of the answer: those of the early 1800s usually listed, and often described in detail, local attractions likely to appeal to the cultural interests of middle-class visitors – antiquities, churches (attendance at one of appropriate denomination was a self-imposed obligation), where to collect fossils and seashells, and often an analysis of the water to be found at a local spring (75). All this would supplement the essential information about assembly rooms, libraries, bookshops, and where the visitor could enquire about local services. From this it is possible to arrive at a fair picture of the respectable pursuits followed by most of the educated visitors.

The working man, when eventually in a position to visit the seaside, would almost certainly be looking for something different, and in all probability more

like the amusements that traditionally came at the local fete or annual fair. A six-day working week and a restricted Sunday meant that, traditionally, only at fetes, fairs and special village or town days could working people let their hair down. On these occasions, rowdy sports and opportunities to display manly prowess were the order of the day (76). By the end of the eighteenth century, the employment changes brought by increasing industrialization were beginning to introduce additional breaks from work, which gave more opportunities for a spell of more ordered relaxation. Nevertheless, it was most likely to be the spirit of the old traditional fete-day that many nineteenth-century working-class excursionists would take with them to the seaside, along with a good thirst. Though they might not want to do the same things as the middle classes, and would be on the beach rather than at the lending library, they would have represented a threat to established residents and more refined visitors. The steamboat provided the means for both classes to travel to the seaside, but that did not mean that it enabled them to mix; segregation of facilities to suit the two different groups was the inevitable feature of the continuing development of most resorts.

Although it was the carriage of people from cities to resorts that first established the steamboat's popularity, paddle steamers later in the nineteenth century were increasingly employed for coastal pleasure trips, especially after railways began taking holidaymakers to their seaside destinations. In some areas, and particularly the north east, it was the commercial coastal service, rather than the holiday steamer, that served the resort. Scarborough, for example, though long established, and a thriving resort by the end of the eighteenth century, does not appear to have attracted a direct holiday-makers' steamboat service. The geography of the area almost certainly accounts for this, as the map in Fig. 70 shows. There was little apparent commercial value in operating separate services specifically for holiday-makers, of the kind that ran in the Thames Estuary and

across the Bristol Channel. From the early days of Scarborough as a resort, visitors came by road, and once coastal services had started, some would have come on one of the steam packets plying between Newcastle and London.

Ship-owners operating passenger sailing ships along the east coast saw the value of introducing steam-powered vessels by the mid 1820s, and from then on regular steam services were linking Edinburgh (Leith), Newcastle, Hull and London, and making calls at Scarborough. Although services of this kind were used by holidaymakers when it was convenient to do so, in commercial, social and operational characteristics they differed considerably from those primarily initiated for leisure purposes. The social significance of coastal steamboat services is therefore examined separately in the following chapter 7.

6

Notes and references

1. See chapter 3.
2. See chapter 5.
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25. Burrows, op. cit., p. 180.

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27. P. Langford (1998), 'The Eighteenth Century (1688-1789)', in *The Oxford Popular History of Britain,* Oxford, Oxford University Press, pp. 444-5.

28. Ibid., p. 443.

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30. *Billinge's Liverpool Advertiser and Marine Intelligencer,* Tuesday 11 July 1822.

31. Nickson, op. cit., p. 176.

32. T. Baines (1852), *History of the Commerce and Town of Liverpool,* London, Longman, Brown and Green, p. 560.

33. A. H. Dodd (1933), *The Industrial Revolution in North Wales,* Cardiff, University of Wales, pp. 128-9.

34. See chapter 4.

35. In the 1820s, Liverpool had a population of about 85,000, and Manchester about 95,000, compared with London's 1.2 million.

36. Baines, op. cit., p. 560.

37. Nickson, op. cit., pp. 199-201.

38. H. J. Perkins (1971), *The Age of the Railway,* Newton Abbott, David and Charles, p. 213.

39. Cannadine, op. cit., p. 69.

40. W. Thornber (1837), *The History of Blackpool and its Neighbourhood,* republished by The Blackpool and Fylde Historical Society 1985, *passim.*

41. Ibid., p. 223.

42. Ibid., footnote p. 224.

43. See chapter 3.

44. R. Fischer (1987), *British Piers,* London, Thames and Hudson, Introduction by J.Walton, p. 7.

45. Ibid., p. 7.

46. S. H. Adamson (1977), *Seaside Piers,* London, B. T. Batsford Ltd, p. 11.

47. Walton, op. cit., *passim.*

48. Cannadine, op. cit., p. 65.

49. Adamson, op. cit., p. 438.

50. Ibid., p. 438.

51. Ibid., p. 263.

52. Ibid., p. 144.

53. See chapter 4.

54. See chapter 5.

55. Capt. F. T. O'Brien (1973), *Early Solent Steamers*, Glasgow, Brown Son and Ferguson, pp. 19-23.

56. See chapter 5.

57. O'Brien, op. cit., p. 33.

58. Ibid., p. 37.

59. J. Travis, 'The Rise of the Devon Seaside Resorts 1750-1900', in Michael Duffy, S. Fisher, B. Greenhill, D. J. Starkey and J. Youings, (eds) (1994), *The New Maritime History of Devon*, London, Conway Maritime Press, Vol. II, p. 136.

60. Ibid., p. 137.

61. Ibid., p. 139.

62. *Banfield's Guide to North Devon* (1836 and 1841), Ilfracombe, J. Banfield, 1836 edition, p. 11.

63. Ibid., 1841 edition, p. 11.

64. Ibid., pp. 9 and 10.

65. Travis, op. cit., p. 142.

66. Ibid., p. 142.

67. Walton, op. cit., p. 3.

68. Travis, op. cit., p. 143.

69. In 1793, when John Byng was irritated to find so many high-society tourists flocking to Snowdonia, the prosperity and stability of Britain that prime minister William Pitt had spoken of confidently a year before seemed to be in serious danger. In France Louis XVI was guillotined, popular risings flared up in Britain, British forces were defeated at Dunkirk, and there were fears of a French invasion. W. Hague (2004), *William Pitt the Younger*, London, Harper Collins, pp. 305 et seq.

70. Cannadine, op. cit., p. 64.

71. Ibid., p. 65.

72. Ibid., pp. 66-7.

73. Travis, op. cit., p. 142.

74. See chapter 5.

75. One guide to Teignmouth concluded with a twelve-page section on seashells, listing in detail some hundreds of varieties to be found near the resort. *Croydon's Guide to the Watering Places on the Coast between the Exe and the Dart, including Teignmouth, Dawlish and Torquay* (1817), Teignmouth, E. Croydon, appendix.

76. Events with prizes for winners in a Chippenham (Wiltshire) Reform Bill celebration day in 1832 included donkey, pony and sack races, a 'race between men', a 'jingling match' with blindfolded men catching a man ringing a bell, and a 'Welch Cock Fight' between men tied in a crouching position. *Festival and Diversions* poster, Chippenham, 1832. Programmes of similar competitive sports on village fete days were advertised in the *Kentish Gazette* in August 1815.

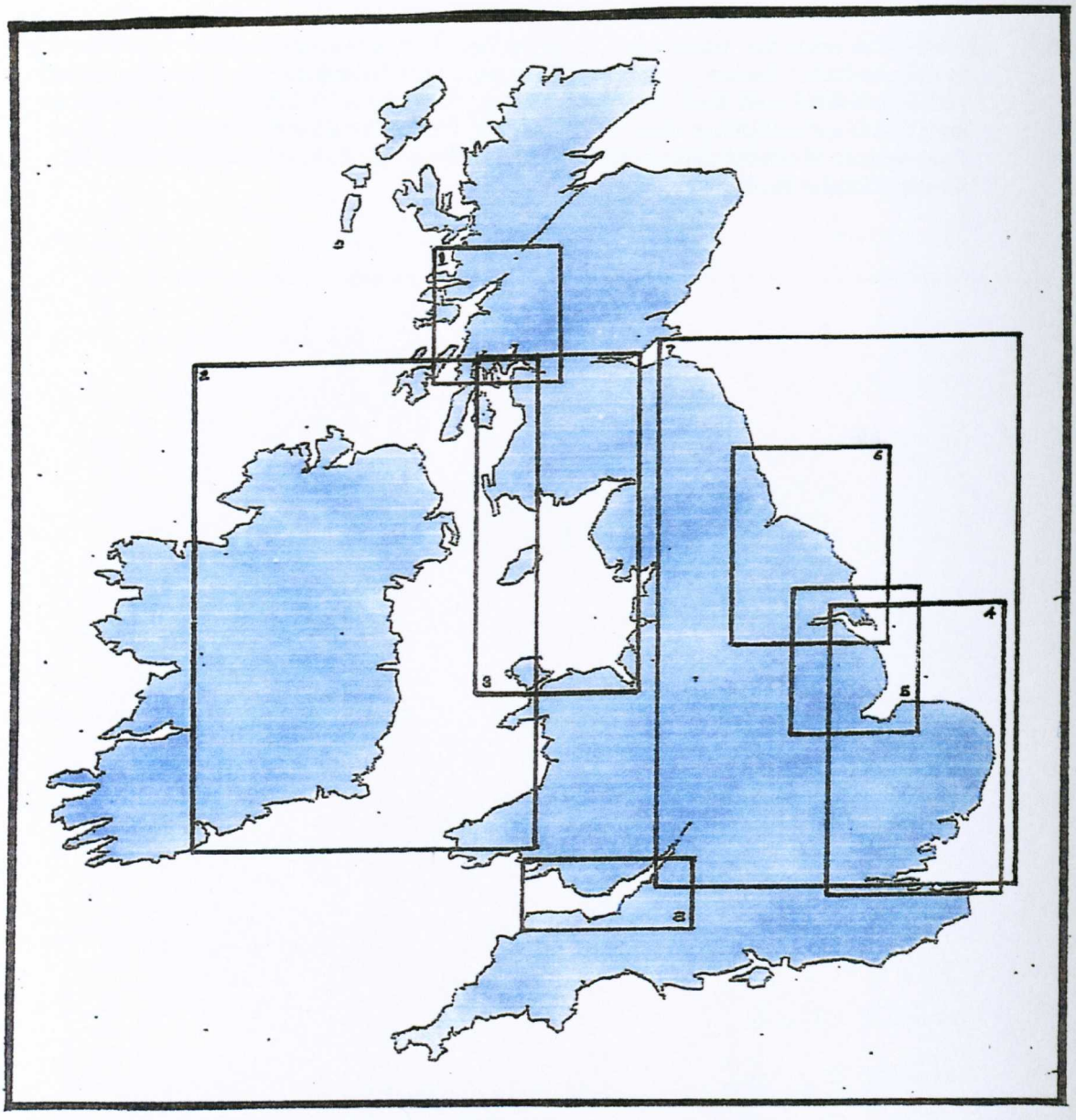

Fig. 71. Coastal paddle-steamer operations discussed in chapter 7.

1. Henry Bell's Hebridean and Highland service to Fort William.
2. Transport of Irish immigrants to Glasgow.
3. Liverpool-Glasgow services.
4. Hull-London coastal service.
5. Gainsborough-King's Lynn inland/coastal service.
6. Goole-Newcastle inland/coastal service.
7. East coast, London-Leith (for Edinburgh).
8. Bristol Channel services.

7.

Coastal services.

In the foregoing chapters, emphasis has been placed on the desire for leisure travel that created the demand for many of Britain's early steamer services. This chapter deals with coastal services, which by comparison were run mainly for passengers travelling not primarily for pleasure, but for more mundane personal or commercial purposes. Although the reasons for travelling were generally different, questions of social significance associated with the introduction of the new steam technology remain as important as in the leisure sector.

After the first passenger-carrying paddle steamers had demonstrated their capabilities in a leisure context, it appears that there was no great immediate rush by entrepreneurs to set up steamer operations to provide business travel between coastal locations. The time lag was not enormous, but on some routes the few years' difference is quite apparent. It may reasonably be said that wherever sailing-vessel services were in operation taking people between coastal locations, there would have been a potential market for steam-powered operations; but a few years passed before most of these opportunities were taken up. A first steam packet crossing from Scotland to Ireland, it is true, was made in 1816, only a year after leisure services began in earnest on the Thames; but elsewhere steamboat services to link towns and cities came substantially later. Between London and Edinburgh, for example, full steam operations did not start until 1821; by then, regular summer steamboat services taking pleasure-seekers from London to Margate and other resorts had been established for six years or more.

The reasons for the later start in coastal steam services are examined more fully in the following pages. The evidence tends to show, as might be expected, that commercial considerations of profitability appear to have governed decisions for change. Where existing services by sailing vessel were successful and represented a substantial investment still earning a profit, operators were most likely to hold back from steam propulsion until the change could be commercially justified.

One of the most important questions of social significance asked in this chapter comes from the need to identify the social classes of the passengers likely to be found on coastal services. The leisure-oriented steamboat operations described in the foregoing chapters were mostly set up as upper and middle class services, but as expansion followed, popular holiday steamboats in particular clearly became increasingly accessible to the lower orders. In some leisure-based operations, the social classes would be intermingled in a way rarely found in any other circumstances, even though they would go their separate ways at their destination. Would travel on the coastal steamer be similarly characterized by comparable or even any social mixing? In brief, probably not. From the evidence explored in this chapter, it would seem that coastal operations were simply not suited to a general relaxation of class division. The practicalities of leisure and coastal operations were different; on a short outing on the Clyde or the Thames, some flexibility over class division may have become increasingly acceptable, but this would probably have been out of the question on a long coastal voyage. Moreover, it does appear that coastal steam services were more likely to maintain a policy based on the prevailing view that the educated classes took of the lower orders. This was that proper accommodation was to be exclusively for the middle classes and above; if the 'labouring poor' were carried at all, they could be treated as a kind of deck cargo.

There were exceptions to this policy, and one of the most fully recorded came in the first coastal steamer service in Scotland. This was the venture into West Highland trade

made by the pioneering Henry Bell, who in 1819 launched a steamboat service to run from the Clyde to Fort William. Details of this are set out later, but at this point it is appropriate to mention the important social characteristics of this enterprise. Highland steamboat operations like this differed considerably from many of the major coastal services that developed later. Travel among the islands in the sea lochs of the West Highland region had a character of its own. Communities were scattered and in many cases isolated, and communication largely depended on ferries and small sailing or oar-driven craft. In this environment, where the traveller was as likely to be a lowly drover or itinerant pedlar as a middle-class excise officer, there could be only limited concern about the social class of those being carried.

This was not the case on more conventional coastal services. The London-to-Edinburgh steamer services described later, for example, were clearly aimed at, and furnished for, the well-to-do. Investigation shows that most coastal steamboat business was based on the carriage of middle and upper class passengers, with services fashioned accordingly, with virtually no provision being made for accommodation of the lower orders except by carrying them on deck. There would have been far less opportunity for mixing of the classes on coastal steamers than on the crowded Sunday trips 'doun the watter' from Glasgow, or on the holiday voyages down the Thames estuary.

Coastal shipping was reaching a significant level of importance for the British economy by the eighteenth century. As the historian Richard Brown has pointed out, 'If tonnage of shipping entering British ports is taken as a measure of comparison, then coastal shipping had a far higher profile than shipping involved in trade with the colonies and foreign countries throughout the eighteenth and nineteenth centuries. In 1841 coastal shipping entries were over 12.5 million tons excluding ballast, while the tonnage from foreign and colonial trade was 4.65 million tons, including ballast.' For people needing to travel any great distance, this coastal shipping was a valuable means of

transport, and Brown goes on to say 'passenger traffic achieved its greatest importance in the 1840s when there were over 1400 miles of regular sailings linking 90 ports and harbours' (1).

Before proceeding further, it is necessary to explain how the term 'coastal' has been interpreted. In general, services are treated as coastal wherever their primary (though not always exclusive) function was to provide communication and passenger transport between coastal ports, rather than holiday travel to seaside resorts. This includes steamer services from England and Scotland to Ireland, which in the period covered was politically an integral part of Britain. International sea-crossing services, for example cross-Channel packet services between England and France, fall outside this investigation, for obvious geographical and socio-economic reasons.

This chapter begins with a brief account of Henry Bell's Highland coastal operations. Next follows an outline of the steamer services that developed from 1818 for travel between Scotland and Ireland, and between Liverpool, Belfast and Glasgow. The services then taken in sequence are those operated on the North Sea coast route, firstly between Hull and London and then from Leith (the port for Edinburgh) and London. This is followed by discussion of routes in the Bristol Channel, with a final section on the characteristics of operations along the south coast of England. The chapter is not intended to give an encyclopaedic story of all the paddle steamer services that went into operation around the coasts, but simply to outline the relevant aspects of a representative selection, which operated in the areas marked in Fig. 71.

The first steamboat operation of a coastal nature in Britain was the brainchild of the restless Henry Bell, who after seeing the potential for steam navigation demonstrated by the success of his *Comet* in 1812, set about organising a steamboat operation that would link Greenock on the Clyde (in those days effectively the maritime port for Glasgow) with

Fort William in the Western Highlands. The advances in communication furnished by this early application of steamboat technology had great local importance; with such a service, the traveller from the Fort William area, previously facing perhaps weeks on the journey and the uncertainties of travel by sail, could now expect to reach Glasgow in two or three days. The route of about 120 miles went via the Crinan Canal, which had been opened in 1801, and so avoided a long and hazardous voyage round the Kintyre peninsula (2). The Highland area served and the route taken by Bell's steamer are shown in Fig. 72.

The story of Bell's service into the Western Highlands and his associated enterprises is comprehensively detailed in Osborne's biography of the steamboat innovator (3). Bell's stated intentions for this enterprise show how it would differ from his original venture at Helensburgh (4). When seeking financial backing, Bell wrote that he wanted to '... obtain the grate object of cheap and expedishous conveyance of cattle pipale and goods ...' (5). In the socio-economic context of the time, it is appropriate to ask about the social class of the 'pipale' he planned to carry. From a few items of evidence, it is reasonably certain that there was nothing socially exclusive about Bell's operation. It was intended for carrying people from right across the social spectrum, and to suit the nature of the Highlands area it served. Travellers finding Bell's service a great boon would include not only government officials, merchants and traders, but also drovers, tinkers and itinerant workers (6).

Before embarking on the Highland enterprise, Bell had seen the need to modify the *Comet* for the more demanding route, and had the vessel's hull lengthened from the original 42 feet (12.5 m) to just under 74 feet (23m) (7). His advertisement for the service offered 'Cheap Conveyance to Fort William', sailing from Glasgow to Greenock, Gourock, Rothesay, Tarbet, Loch Gilp, Crinan, Easdale, Oban, Port Appin and Fort William. Fares for the full journey to Fort William were £1 and 2 shillings (£1.10) cabin, and 15 shillings (75p) steerage. In a footnote, Bell said that he 'intimates to the

merchants and gentlemen of the north-west coast of Scotland, that he intends to dispose of a number of shares of said steamboat, which he hopes will turn out to be advantageous to the owners and to the public at large.' (8).

In general, coastal travel did not appear to offer the entrepreneur the same immediate opportunities for profit as trips to the seaside. But there was a notable exception in the case of steamer transport between Scotland and Ireland. Among the first steam vessels to make a true sea-going journey in coastal areas was the small *Greenock*, which made news by completing a crossing from the Clyde to Belfast in April 1816 (9). Larger vessels were needed for regular passenger operations, and it was a 90-ton steamboat, the *Rob Roy*, which in 1818 began the first regular crossing to Belfast. This offered a twice-weekly service at a one-way cabin fare of 1 guinea (£1.05), and a steerage fare of 14 shillings (70p) (10).

This improved means of travelling between Scotland and Ireland was clearly welcomed by the wealthier denizens of both countries. According to the Irish historian James E. Handley (11), for a decade or more after the first voyage, steamboat operators battled for custom in what must have been a lucrative business, vying with one another in advertising increasingly spacious and elegant accommodation (12). Competition by price-cutting followed, and in the mid 1820s, profit-making was increasingly focused on carrying great numbers at 'deck' fares, which could be as low as 3d (1p) for the one-way trip. This was one of the earliest instances of the carriage of large numbers of the lower orders, who had to accept travel conditions that can only be described as wretched in the extreme. Most were virtually destitute Irishmen desperate to find work in Scotland. The facility with which low-cost steamboat travel was enabling so many to move into Scotland soon began to cause concern, and 'Alarmed at the prospect of an inundation of beggars from Ireland, magistrates in Greenock threatened at the expense of the owners [to deport] all mendicants imported on their vessels.' (13).

In fact, by no means all Irishmen coming across to Scotland were without hope of employment. Every summer, farmers in the west Lowland area had an urgent need for harvest labour. Once the steamboats made low-cost travel possible, much of the farmers' needs could be met from Ireland. According to Handley, 'Clyde steamboats were bringing 6 to 8 thousand a week in the height of the season,' and they were doing so with little regard for their safety or comfort. He added that *The Constitutional* of September 1838 reported that when the *Foyle* steamboat arrived with 600 Irish reapers '... every inch of deck and paddle boxes was crowded with human beings' (14). By 1845, there were as many as 20 steamboats regularly engaged in this kind of traffic with Ireland, operating between Greenock and the Irish towns of Belfast, Newry, Dundalk, Dublin and Cork (15) (Map, Fig. 73).

Coastal steam vessels also carried emigrants on the first stages of passages to America, for example from ports in the south of Ireland round to Londonderry. Conditions for these passengers could be even worse than for the harvesters going to Scotland. One of the more notorious instances demonstrating the treatment that emigrants had to endure occurred in 1848. When the 277-ton *Londonderry* was caught in a storm while taking emigrants from Sligo to Londonderry, 174 of these passengers were forced into a 23ft by 18ft (7 x 5.5m) hold, and on arrival 72 were found to be dead. According to Handley, criticism in press comment was directed at the foolishness of the emigrants rather than at the behaviour of the master (16).

Not all summer immigrants from Ireland went back to their impoverished homeland after the grain harvest. Some stayed to seek work in Lowland Scotland, where the fast-growing economy had openings for unskilled labour in stevedoring, road-mending, canal-digging, brickmaking, quarrying and industrial building. The type of work that was, Handley records, 'too strenuous, or below aspirations' for the native workforce (17). There were profound consequences for the ethnicity of the local

population; the 1841 census revealed that 4.8% of the whole Scottish population were Irish-born. More importantly for some areas, in counties adjacent to Glasgow - Lanark, Renfrew and Wigton - 13.1, 13.2 and 14.7 per cent respectively of the people had come from Ireland (18). The unprecedented facility brought by steam navigation for carrying great numbers at low cost was an important contributing factor in this ethnic change.

At the port of Liverpool, the steamboat's potential as a passenger carrier was of interest very soon after activity developed in Scotland. The first steamer from the Clyde arrived on the Mersey in June 1815, calling at Ramsey on the Isle of Man on the way, and was evidently for use in local services. A report of its arrival said: 'we believe she is intended to ply between Liverpool and Runcorn, or even as far as Warrington. Her cabin will accommodate 100 persons' (19). Other vessels for local routes followed: 'In the summer of 1816 a steamer, the *Princess Charlotte,* began to ply from Liverpool to the ... ferry-house at Eastham, in connection with which coaches ran to Chester and Shrewsbury' (20). The route of this service is shown in Fig. 66.

Those first steamboat operations from Liverpool were essentially local, and it appears that not until 1819 were sea-crossing coastal services introduced, to meet the need for passenger travel between major ports. The first of this kind is believed to have begun in the summer of 1819, when passages on the *Robert Bruce* were advertised for travel between Liverpool and Glasgow (map, Fig. 74). The fares for this were £2 in the cabin, and one guinea (£1.05) steerage (which can be taken to mean the forward cabin). Provisions were available during the passage 'at moderate terms'. In the same year the *Waterloo* arrived, to ply between Liverpool and Belfast. The fares for that journey were £1. 11s 6d (£1.57) in the cabin, and 10s 6d (53p) for steerage (21). By 1820, steamboat services between north Wales and Liverpool appear to have become similarly established and operating regularly. Advertising in Liverpool's main trade and commerce paper in October 1820, headlined 'Rapid Communication Between Wales and Ireland', gave

details of services in the steam packets *Talbot* and *Ivanhoe,* stressing the short crossing time ('... generally about 7 hours...'), and their advantages for 'those crossing the channel for business or pleasure' (22).

Except for the special instances of links to Ireland, the launching of steamer operations for coastal travel in general was late compared with the rush of enthusiasm to run leisure services. A look at details of the London-Edinburgh route, which is discussed later, suggests that the reasons were strictly financial, and in some cases bound up with concern about possible loss of returns from existing investments in sail. There were no significant practical obstacles, and examples like those of the steam vessels making the crossing between Glasgow and Irish ports would have been reassuring about seaworthiness. Although the early steamboat had no great cargo-carrying capacity, it had rapidly proved itself to be attractive as a carrier of passengers, mail and packages. It offered the prospect of a more consistently scheduled passage than the usual type of passenger-carrying sailing vessel. But the start of coastal operations by steamboat in some areas clearly lagged behind the rush to participate that typified the launch of steam services in the leisure market.

One very good reason for caution in employing the new steamboat on coastal routes already served by sailing vessels can be advanced when a comparison is made with operations in the holiday-travel context. On the thriving Margate holiday route, for example, introduction of the steamboat to replace sail offered passengers an immediate benefit. For the first time, they would have the prospect of a fast and comfortable journey, altogether better than the traditional alternative, which most passengers probably hoped never to experience again. The steamboat's predecessor in the Thames estuary was the sailing 'hoy', open to the elements, and notorious for its lack of comfort or even decent basic amenities (23). It is not surprising that customers on Thames journeys changed to the steam-powered vessel as soon as they could. On a coastal

passenger service however, typically that between London and Edinburgh, the comparison between existing services and the alternative offered by steam was entirely different.

Successful operators on some existing coastal routes were evidently well established in running good sailing-ship passenger services. These could offer high-quality travel in well-appointed vessels, with accommodation and service suited to the expectations of well-heeled passengers, who might spend several days at sea. If a shipping company looked at the potential of the typical small steamboat of 1815, its inadequacy for lengthy coastal passages would have been immediately apparent. The early steamboats, though capable enough in fairly short sea voyages, would not have been large enough to compete with the 'luxury cruise' standard offered in existing sailing vessels. On comparatively short daytime journeys, for example from Glasgow to Bute or from London to Margate, passengers would no doubt tolerate being closely packed aboard for a few hours. On major coastal routes, however, that would have been totally unacceptable. The introduction of the new technology on coastal routes would have to wait until steam vessels could offer service and accommodation as good as or better than the best sailing ships.

Passenger services by sailing vessels linking London with Edinburgh, in particular, were well established by the end of the eighteenth century. For the Regency traveller who wanted to journey between the two capitals, the coastal service by sail offered one of the preferred ways of going. Although the lordliest aristocrats might be taken by road in their own carriages, accompanied by their entourages, the options for others were to travel 'post' (hiring horses and carriages, possibly making up a party to share the costs); to go on horseback; or to make the generally uncomfortable and expensive journey by stagecoach. The sailing ships that had been furnished to meet the requirements of the

top people offered a much better way of spending the few days that it took to go between the two capitals.

One of the first places to take an interest in launching steam-powered services on the east coast was the port of Hull. By 1820, this thriving maritime town had already seen a good deal of inland steamboat activity. The merits of steam navigation had been on show to local merchants and traders since 1814, when the *Caledonia* began as the first steam packet to operate a regular Hull-Gainsborough service on the Trent and Humber (24). The potential of the steamboat for business travel and wider use could hardly have escaped the notice of local merchants and ship-owners.

The first coastal steamer service from Hull started in April 1821, when the 105 ft (32m), 120-ton steam packet *Kingston* left Hull carrying forty passengers on a passage to London (25). The beginning was not, initially, very propitious; four hours into the journey, a paddle shaft broke, and the vessel was forced to go back under sail. A new shaft was fitted by the vessel's builders, at Thorne on the River Don, and on 12 May the *Kingston* made a fresh start. The renewed journey went without trouble, the vessel making London in 40 hours, and returning in 35 hours. Having pioneered the run, the *Kingston* was from then on employed in a weekly service to London until mid-November, except for a break in June for an overhaul, which included fitting new boilers (26). In the following year a second steamboat from the same yard was added, and within a few years coastal travel by steamer, connecting major ports and resorts down the east coast, was beginning to thrive. Larger vessels were introduced, and fares fell. In 1822, the original 2-guinea (£2.10) best-cabin fare to London was reduced to one and a half guineas (£1.57), and by 1835 this had dropped to 15 shillings (75p) (27).

Although there was a steady increase in the size of coastal vessels, the Hull Steam Packet Company also saw the merit of using smaller vessels that could negotiate rivers, to

extend coastal runs into inland ports. In 1824 the *Lowther,* 90ft and 95 tons, operated on a route that took it from Selby on the River Ouse to Hull, and then on down the coast to Yarmouth in Norfolk (28). Later the *Lord Nelson* went by river from Gainsborough to Hull, and then down the coast and across the Wash to King's Lynn (29). Another started at the inland port of Goole, and went up to Newcastle after calling at Hull. This was advertised as calling en route 'off' Bridlington, Scarborough, Whitby, Hartlepool and Sunderland, where it presumably picked up and dropped off passengers without docking (30). The routes of these east coast operations are shown in Fig. 75.

One of the most important long-distance communication and travel links in the country was that between London and Edinburgh. The first scheduled steam packet service to go into operation on the coastal route between the two capital cities was launched in 1821 with the *City of Edinburgh,* by ship owners who formed the London and Edinburgh Steam Packet Company (31). Unlike the Hull initiative, which came from the enterprise of a small shipbuilding yard with the financial backing of a group of local farmers (32), this was a move made by an established shipping company, running a coastal passenger service in well-appointed sailing vessels. In this instance, it is not difficult to identify the probable reason for the comparatively late start: the firm was already running a thriving coastal service, and had a vested interest in maintaining revenue from its sailing fleet. Reluctance to experiment with steam until circumstances were right would be understandable.

In the 1824 edition of the company's handbook, the *London and Leith Smack and Steam Yacht Guide,* details are given of their steam-powered services . But it is sailing services, rather than steam, that the company still appears to be keen to promote. The *Guide* enthuses at some length about the quality of accommodation for passengers travelling in the company's sailing smacks, which had been plying between Leith and London since the last decade of the eighteenth century. These vessels, of between 130

and 200 registered tons, carried crews of 10 or 11 able-bodied seamen, plus the master, mate, and a steward. According to the *Guide*, the sailing smacks were 'elegantly fitted up, with separate cabins for ladies and gentlemen' ... and ... 'pianos and books have now been introduced'. Possible worries among sensitive passengers about the class and behaviour of their travelling companions were addressed with the assertion that 'passengers are tolerably select' ... and ... 'the majority are well-educated and well-bred, who keep the exceptions in check. One cabin is occasionally taken by private families.' (33). The Leith company in 1824 was by no means writing off its sail investment as being outdated by steam, and was probably anxious to continue earning from it. Concern about cargo-carrying capacity would have been an additional reason for caution about an early commitment to steam vessels; these generally carried less cargo than the sailing ships of the time.

The same guidebook compares the pleasures of sea travel with the trials of travelling by stagecoach. In that, the writer claims, the traveller is 'cooped up in a box, cramped in position, stifled in summer, stunned by the perpetual noise of iron horse shoes, rattling wheels, guard's horn etc – almost giddy from the ceaseless whirl'. The passenger going by sea, by contrast, is 'unfettered ... [in] healthful briny air ... can read or write, converse, enjoy the intellectual sublimities of marine scenery.' (34). One of the best incentives for going by sea, however, must have been its relative cheapness; nominal fares, Edinburgh to London, quoted in the *Guide* were 4 guineas (£4.20) by sea, as against £13 by road (to which extras for food, accommodation and tips would have to be added) (35).

When the owners of the Leith company did make their move into steam services, they launched their first service to London, in 1821, with an altogether larger and more powerful vessel than that of the Hull operators. Their first steam packet, the *City of Edinburgh,* was of 420 tons, with two 40-h. p. engines, and a saloon 'able to dine 95 passengers'. In 1822 the company's second steamer, the *James Watt,* 449 tons, was

equipped with two 50-h. p. engines, and could seat one hundred for dinner. Larger vessels followed in succeeding years. These were claimed to reach London in an average time of 50-52 hours, seldom over 60, and the journey 'has been done in 45 hours.' (36). An indication that competition from sail was by no means finished on the east-coast route, however, appeared in July 1826: the schooner *Jane,* operated by the Cheesemongers Company of London, was claimed in an advertisement to have made the Hull to London journey in 32 hours (37).

One of the technical difficulties inherent in steamboat operations at sea may be surmised from the account of the *Kingston's* first year of service from Hull. After no more than two months, the vessel went back to the builders' yard, where new boilers were installed (38). This might point to an operational difficulty associated with the marine environment. It was soon appreciated that steam-powered vessels at sea encounter two problems: accelerated metallic corrosion caused by seawater and salt-laden sea air, and the build-up of salt in the boiler.

All early steamboats and steamships in maritime operations took water for their boilers from the sea: this meant frequent cleaning, to remove the consequent deposits of salt. The technology for reducing the problem was available - pure water could be obtained by putting the exhaust steam through a condenser - but that added weight, bulk and complication. Instead, it became customary to let the salt build up, and to remove it by periodically 'blowing down' the boilers. This continued to be general practice for many years (39). There is no direct reference to this problem in accounts of the early coastal vessels operating from Hull or Leith (40), but the fact that the *Kingston* was refitted with new boilers in the June of its first season suggests either that trouble of some kind was being experienced, or that the operators were being prudent in replacing equipment before trouble could develop.

The backgrounds of the two pioneering companies, in Leith and Hull, were quite different. The *Kingston* at Hull was financed by a group of local men farming in the area around Thorne on the river Don, where the vessel was built (41). Unlike the Scottish company, they are not known to have had any previous involvement in ships, and on the contrary may have seen the steamboat as a useful way of gaining entry into a growing transport market. Although they would have become familiar with the inland steamboat activity that developed in their region, there would have been some anxiety about the security of their investment (42). This was backing new technology, with the commercial uncertainties of entry into a different type of travel market. Although small-scale local ship-building and financing was by no means unusual (43), it is conceivable that the need to consider a variety of new factors played a part in delaying the launch of their first coastal steamer service until there was confidence about its likely success.

There is a further possible reason why the farmers put their money into a steamboat project at that time. In 1815, the defeat of Napoleon at Waterloo brought the years of wars on the Continent to an end. Cessation of hostilities meant a swiftly diminished grain market, and the threat of hard times in agriculture (44). It may be that, with money in their pockets from the war years, and the prospect of leaner times ahead, the farmers looked around for opportunities to diversify, and by about 1820 could see that steam navigation was a developing field of operation that held out the prospect of profit.

Although the economic slump after 1815 may have discouraged provincial enterprise, its effects seem to have been contradicted in London, where demand for leisure travel by steamer to the Thames and Thanet resorts soared. But the socio-economic situation there was different; London's booming steamboat activity was mostly the creation of a buoyant city economy with an enormous population, seemingly able to indulge a great appetite for leisure pursuits. The two fields of commercial activity – the summer-time

demand for holiday travel on the one hand, and the need for year-round travel in the business-oriented world of coastal services on the other – would fluctuate in response to different stimuli. Though times were hard for general trade immediately after 1815, by 1820 the skies may have been clearing enough to encourage investment in coastal steamboats (45). But there were always fluctuations in the country's economy to contend with; in 1827 twelve new ships of from 80 to 400 tons, built at Whitby, were lying unsold, and in 1828 Hull's three-a-week steam-packet service to London was reduced through lack of customers to two a week (46).

At Newcastle upon Tyne, investigation of coastal steamboat activity suggests that much of the need for business travel from there to Scotland or London, and for the more leisure-oriented travel to Scarborough and Whitby, was met by the Scottish and Hull-based steamboats plying on the east-coast route and calling at the Tyne ports. The first direct run by steamboat from Newcastle to London is believed to have been made by the *Rapid* in 1820 (47), and London-Edinburgh coastal steamers were making regular calls on the Tyne by 1822. Commercial interest in steamboat business had clearly been aroused considerably earlier, because in 1814 a group of twenty local businessmen came together to draw up Articles of Agreement, to 'form themselves into a Company, for the purpose of carrying ... Passengers and Goods upon the River Tyne by means of Packet Boats ... to be navigated and wrought by steam.' (48). The resulting Deed of Co-Partnership recorded the formation of the Tyne Steam Packet Company. The holders of the forty shares in the company were mostly merchants, with the appropriate inclusion of a boat-builder, and a ship and insurance broker. One history of Newcastle upon Tyne records that 1814 also saw the launch of the first steamboat to be built on the Tyne, the *Tyne Steam Packet,* later re-named the *Perseverance,* which carried passengers from Newcastle to Shields (49). No evidence can be found to link the formation of the Tyne Steam Packet Company with this vessel, although the names suggest a connection.

The introduction of any significant numbers of passenger-carrying steamboats based in the Tyne/Wear area appears to have been slow, and this very probably reflects the commercial character of the area. Unlike Hull, which was the great entrepot for much of the eastward export trade in goods from the textile industry of Yorkshire and Lancashire, Tyne ports were, more than anything else, the main outlets for the coalmining industry of the north east. Interest in the potential of steam-powered vessels, when they became operational, was understandably focused locally on their value for towing coal-carrying sailing ships down river to the sea. A search through local material of the 1830s shows only limited passenger-carrying and leisure-oriented steamboat activity based on the Tyne. Contemporary steamship timetables in local newspapers mostly feature east-coast services that call at Shields (at the mouth of the Tyne), but do not originate locally. The needs of Newcastle businessmen and others wanting to go to London or Edinburgh, or to intermediate ports, would seem to have been met by these coastal services rather than by steamer operations based or originating on the Tyne.

Scarborough and Whitby, on the coast of Yorkshire, differed from the resorts of the south, and of the Thames estuary in particular, in not having attracted extensive pre-steamer summer travel operations by sail. Georgian and Regency families visiting Scarborough for its popular attractions of sea and spa generally went by road; the geography of the area meant that there was little point in travelling say to Hull, and then taking a sailing vessel up the coast, when the most direct route was overland, as Fig. 70 shows. In the 1830s, steamers were frequently the subject of reports in Scarborough newspapers, but it is clear that these were not based there. One typical 1836 advertisement advises that the steam packet *Eclipse* 'leaves Shields [at the mouth of the Tyne] for Whitby and Scarborough every Tuesday morning at eight, arrives Scarborough in the evening, and goes on to Hull next morning.' (50). In July the following year, one advertisement published in Scarborough is for a steamer service running from Hull to London, three times a week, but with no mention of a connecting Scarborough-Hull

service (51). Stagecoach services were then still fully advertised in Scarborough papers. After mid century, railways became the preferred way to go to the resort; the first mention of a local railway service, between Whitby and Pickering, appeared in advertising in 1837 (52).

In the Bristol Channel (map, Fig. 76), steamer services to link England and Wales did not really get under way until the early 1820s. It is probable that coastal steamer services there were started primarily for local business rather than for leisure. Movement across the lower Severn to the Welsh bank opposite, at Newport, was a necessity from ancient times. The traditional ferry crossing was at Aust, at the location shown on the above map; the only alternative for anyone travelling from England into the southern part of Wales was the long way round via Gloucester. There was interest in the potential of steam services as early as 1816; in that year a William Stewart of Bristol deplored the conditions for passengers travelling from there across to Newport, and tried to interest investors in having a well-appointed steam vessel built to provide a better service (53). One clue about the type of passenger is that the existing sailing vessels were called 'market boats', which suggests personal commerce of some kind – the typical function of what was essentially a ferry service. But it was not until at least three or four years later that the prospect of a steam-powered crossing became a reality, in the form of the 48-ton *Cambria,* which was owned by Bristol merchants.

In October 1822, the *Duke of Beaufort* started the first service from Bristol to Chepstow, and in April 1823, a Swansea-Bristol service began in the *Glamorgan,* which also called at Sully, where there were landing facilities for Cardiff. These vessels offered travel at three price levels: in the *Glamorgan* there was accommodation in an after cabin, a fore cabin and a forecastle at 15, 10 and 5 shillings (75p, 50p and 25p) respectively, Swansea-Bristol, while the *Duke of Beaufort* had cabin, stern cabin and deck, at 4, 3 and 2 shillings (20, 15 and 10p) respectively, for the shorter Bristol-

Chepstow service (54). The cost of travel gives a fair indication of its exclusivity; at these prices, the well-to-do would occupy cabins, while workmen would probably find even deck travel expensive.

Travellers going to Swansea in vessels such as the *Glamorgan* might have been making the journey for business or for pleasure. As Swansea was the maritime port for an area then being intensively exploited for mining and metal processing, there would have been a substantial demand for business travel between there and Bristol (and on to London). But earlier, in the eighteenth century, Swansea had been a resort of some significance. Although an 1850s guidebook to South Wales said that '... the fame it long enjoyed as a "watering place" has been growing less ... increasing commerce having rendered unimportant its attractions for visitors' (55), it is probable that touring parties were still going to Swansea as a starting point for visits to Mumbles and the nearby Gower coast, the picturesque qualities of which were detailed in the same guidebook. From 1823, this coastal steamer route became the most convenient way to get to Swansea, and would have been invaluable for business purposes, since there was no direct rail link until 1850. Nevertheless the Victorian tourist in mid-nineteenth century was also attracted to that part of South Wales (56), and would have been able to travel by coastal steam vessel.

On the south coast of England, coastal steamboat services grew up in an atmosphere predominantly of leisure rather than commerce. Operators were not slow in appreciating that there was a demand for travel along the coast, as much or more for the enjoyment of a scenic cruise as for getting from one place to another. In 1823, the Plymouth, Devonport, Portsmouth and Falmouth Steam Packet Company began regular sailings from Portsmouth to Plymouth, making calls at a number of places in between. In the first few years, these services ran only in the summer months, but winter sailings were introduced in 1829 (57).

In the proliferation of coastal steamer services that came with the growth of English seaside resorts, it is possible to see the beginning of what might be called the twilight phase of the paddle steamer's life. In the second half of the nineteenth century, two technological changes were bringing its heyday to a close. In a remarkably short time, the arrival of the railway train – faster, more convenient, more widely available - killed off all but a small number of steamboat operations. At sea, the introduction and general adoption of the screw propeller instead of the less efficient paddle wheel brought the beginning of the modern era in shipping. Nevertheless the paddle steamer was still to be seen in a variety of roles until well into the twentieth century, above all in ferries and short-range coastal operations. At seaside resorts, a cruise along the coast or a visit to another place by paddle steamer was for many thousands one of the extra joys of a summer holiday. In the Scottish Highlands and on English lakes, the utility of the shallow-draught paddle steamer kept it in service for many years after it had largely disappeared elsewhere. And around the coasts of England and Wales, the coastal steamboat, which for a time had a significant role in commerce, metamorphosed into the end-of-the-pier pleasure craft of the late-Victorian seaside.

Was the coastal steamer associated in any way with any lessening of social divisions between classes, or with widening the scope for the lower orders to share any of the travel and leisure amenities used by the middle class? One thing very apparent from the accounts of Irish labourers travelling to Scotland for the grain harvest is that operators of steamboats were willing to carry all the passengers that they could cram aboard, at the lowest of fares, since the demand was evidently big enough to make this profitable. But proper accommodation for such was non-existent; a 3d (1p) fare bought nothing more than a small amount of space on deck. Although there were occasions when it suited owners to pack a vessel's deck with workmen for a single journey, their primary market was middle class and above.

There is very little evidence to be found of coastal steamboats bringing a widening of social opportunities by enabling significant numbers of the working class to share full-fare accommodation with middle-class passengers, although that does not prove their absence. The likelihood of the working man being present in any numbers on coastal vessels (except, in effect, as deck cargo) is much less than in the case of the holiday services discussed in chapter 6. In the latter, there is evidence that the working man's determination to have a brief spell of relaxation by the sea would be enough to overcome difficulties of affordability. It is questionable that the same motivation or opportunity applied in the case of travel by coastal steamer.

In assessing the prospects of socially widening sea travel in the 1830s and 40s, it is useful to look at the policy adopted by the newly arrived railways. Until late in the 1840s, the prevailing railway principle was that working men should be permitted to travel only in goods trains (58). Reform to a slightly more egalitarian approach came only when public and Parliamentary concern was aroused, following incidents such as the rail disaster at Sonning in 1841, when a number of workmen passengers were killed. Their accommodation for a nine-hour journey in winter was in open-sided trucks, vulnerably positioned at the head of a long and heavy goods train (59). Two railways at the time– the Great Western and the London and South Western – still followed the same practice. The London and Birmingham also had an unequivocal policy of consigning 'the lower orders' along with horses, cattle and empty wagons (60). With an attitude of this kind general on many rail services in 1841, it would be surprising to find steamer operators in the 1830s providing anything better than deck space for their equivalent of the railways' third-class travellers. When evidence about the occupations of coastal steamboat passengers has come to light, it shows that cabin accommodation, 'best' or otherwise, was almost entirely occupied by middle-class travellers.

There was one noted incident in 1831 where, among mostly middle-class passengers, a small number of artisans can be identified. On 17 August that year, the paddle steamer *Rothesay Castle* left Liverpool for Beaumaris with some 100 people on board. The voyage ended in tragedy, the vessel ashore and broken up at the mouth of the Menai Strait, with the loss of many lives. Most of the passengers, from various Lancashire towns and on an excursion 'in the pursuit of laudable pleasure', were in occupations that would identify them as middle-class. Among the deceased were a draper and hosier, a watchmaker, the father of the Clerk to the Collegiate Church, a family with maid and chambermaid, a shopkeeper, a manufacturer, a colliery superintendent and a fruit dealer; a chemist and druggist, a solicitor, and a Catholic priest. But there were also a few artisans - two stonemasons, a cotton spinner, a leather cutter, a joiner, a brazier/tinman, and a bricklayer (61). The excursion had clearly attracted middle-class people, but where did the artisans fit in? Were they leisure excursionists like the distinctly middle-class others, or deck passengers using the steamboat out of necessity? Since the incident was in 1831, almost certainly the latter. Not until thirty or forty years later were they likely to have been joining in with the middle-class passengers in travelling for pleasure.

The chronology of improvement in the disposable spending power of the working man was neatly summed up in evidence given to a Parliamentary committee in 1875 by a factory inspector, who said: 'The working class are moving about on the surface of their own country, spending ... to "see the world"; *as the upper classes did in 1800, as the middle class did in 1850, and as they themselves are doing in 1875*' (62). The inspector's dates were no doubt approximated for the sake of a good phrase – the middle classes were travelling on holiday and as tourists in great numbers well before 1850 -- but the important point is that he puts the participation of the working class well after the middle of the century. Significant change enabling the working man to travel

independently as a fare-paying passenger, at anything better than 'deck' class, probably came only after about 1860 or even later.

A news item in a local Scarborough newspaper in 1836 reinforces the impression that no provision was made for properly accommodating deck passengers. This reported that a Scottish coastal steamer was carrying old mail coaches, and to lighten ship in a storm, these were thrown overboard. A deck passenger who had been sleeping in one of them came close to being thrown overboard as well (63). From advertising and travel guides, it is impossible to know if deck passengers were offered any kind of shelter from the weather, but the mail-coach anecdote suggests that they probably had to make do for themselves as best they could.

For those at the other end of the social scale, it is apparent that coastal steamer operators were providing service and accommodation of a kind suited to the life style of the landed gentry. Details published in early-1840s coastal steam-packet guides show that provision was made on the direct east coast London-to-Scotland route, in particular, to meet the expectations of the carriage trade. Besides listing passenger fares (£3.50 for the 'chief' cabin and £2.25 for the fore cabin), a typical London-Scotland coastal steamer tariff in the 1840s made it clear that the man of wealth could count on being able to take his aristocratic entourage with him. The fare for taking the passenger's coach was nine guineas, a chariot cost eight guineas, and a britzka or landau seven; a large phaeton was charged at six guineas, a small one at five, and a gig at three and a half or three guineas. With these a horse could be taken for five guineas, a pony for four or three guineas depending on size, a Shetland pony for a guinea and a half, and a dog for ten shillings. Transport was available to take passengers from central London directly to these vessels for boarding; omnibuses from Regent Circus called at Leadenhall Street in the City, and passengers were reassured that they could step directly on to the vessels from the wharf, without having to go out to them in a small boat (64). The tariff tends to confirm that the

coastal steamer service offered a preferred way for the London aristocracy and their families to be conveyed to their Highland lodge for the season.

Despite the importance of any socially significant change associated with the arrival of steam navigation in Britain, steamboat operations in the first half of the nineteenth century were on a relatively small scale, and their impact must be assessed accordingly. In 1815, there were fewer than 40 steamboats in use, while at that time there were roughly 22,000 British-registered sailing ships in service. By 1835, the total number of registered steam vessels had moved up to 500, while the numbers under sail stood at 25,000, with a total tonnage of more than 4,000,000. It was only well after that time that the ratio altered significantly, and steamships did not begin to outnumber sail until the early years of the twentieth century (65).

Sailing ships were not the only more traditional means of transport to remain vigorously active in the first half of the nineteenth century. Stagecoaches were still running by the many thousand well after the boom years of railway development, and did not begin to diminish significantly until the middle of the century. On the London-Edinburgh coastal route, the steamboat remained competitive as a passenger carrier for a number of years, even after rail travel between the capitals had become possible by using the services of the five railway companies whose lines then covered the eastern part of the country. These railways, conceived and built piecemeal as local projects (map, Fig. 77) could offer little better than the coastal steamer until well into the second half of the nineteenth century. As late as 1849, 11,584 people went from Edinburgh to London that year by sea, while 5,792 went by rail (66).

One question arising in studies of the socio-economic history of Britain asks about the extent to which individual components of new technology contributed to economic change. There is no doubt that in certain circumstances the steamboat made personal

travel, and hence communication, faster and more reliable. Did this have value in contributing to the economy in general? It is reasonable to believe that the coastal steamboat services introduced from 1820 played a part in facilitating commercial travel on certain specific routes, and undoubtedly improved communication between London and Ireland. But their contribution to prosperity, in relation to the overall economy of the country, would have been barely perceptible, at least until the last quarter of the nineteenth century

On the question of change in cultural attitudes about social class, there is little or no evidence within the period between 1815 and 1850 to show any relaxation, in coastal steamboat services, of established class segregation. Because steamboats were able to carry passengers by the hundred, and particularly did so in the holiday context, they tend to be seen, rightly, as bringing an early expression of the idea of mass transport. What appears to be unjustifiable, however, is a broadening of this concept to suggest that there was any more general sharing, in the first four or five decades of the nineteenth century, across the social classes.

The steamboat was eventually, without any doubt, the instrument by which the opportunity to travel for pleasure was extended, for the first time, to include people from a greatly widened part of the social spectrum. Excursion travel, based on participation in savings and cost-sharing schemes, crucially advanced this widening, and it was the great carrying capacity of the steamboat that made excursion journeys possible for so many. Coastal travel was different; the customer that the coastal steam packet promoter had in mind was the professional man travelling on business, and the middle-class family and above. The Leith company was no doubt concerned about the sensitivities of the better sort when making its defensive claim that its passengers were 'reasonably select'. The person they had in mind, when reassuring the nervous traveller that undesirables would be 'kept in check by the well-bred', was most probably the presumptuous *arriviste* or the professional card-sharp, not a belligerent ruffian from among the working poor.

The conclusion to this examination of the social aspects of coastal steamboat operations can be readily summed up: travel in respectable accommodation was the preserve of the upper and middle classes. Significant change did not come until well after 1850, and then was associated with the increase that came in the spending power of the working man, and eventually with the emergence of that new social entity, the respectable working class. In its heyday before the arrival of railways, steam navigation extended the practicality of faster and wider travel to all who could pay the appropriate fare, but the social orientation of services and accommodation towards middle-class requirements meant that the lower orders would still travel, at best, only in the maritime equivalent of the servants' quarters. Segregation of this kind on crowded coastal steamers meant deck passengers being subjected to unimaginably inhumane conditions. The plight of those caught in such situations was likely to be viewed by the educated classes with an indifference that now seems hard to understand. But that indifference was no more than a fair reflection of the ethos of the 'two nations, between whom there is no intercourse and no sympathy ...' (67) that prevailed in the society of early Victorian Britain.

7.

Notes and references

1. R. Brown (1991), *Society and Economy in Modern Britain 1700-1850,* London, Routledge, p. 148

2. The Crinan canal across Knapdale in Argyll would have been important for Bell's northern venture. This was opened in 1801, and allowed vessels to pass for the first time from Loch Gilp to the Sound of Jura, allowing a sea passage from the Clyde to Fort William without the hazardous passage round the Mull of Kintyre peninsula.

3. B. D. Osborne (2001), *The Ingenious Mr Bell,* Glendaruel, Argyll Publishing, pp. 139-186.

4. See chapter 3.

5. Osborne, op. cit., p. 154.

6. Some indication of the social mix on Highland steam vessels comes from the identification of passengers drowned in the sinking of Bell's *Comet II* in 1825. These included a butcher, a private soldier, a pedlar and a shoemaker, a Highland trader and a commissioned army officer. From the *Scots Magazine* of November 1825, quoted in Osborne, op. cit., p. 179.

7. Ibid., p. 146.

8. Ibid., pp. 146-7.

9. *Glasgow Courier,* 27 April 1816.

10. *Glasgow Chronicle,* 2 March 1819.

11. J. E. Handley (1943), *The Irish in Scotland 1798-1845,* Cork, Cork University Press, p. 23 et seq.

12. The socio-economic importance of commerce and communication with Ireland at this time is indicated by the size of its population, which in 1820 stood at 7 million, compared with Scotland's 2 million. B.R. Mitchell and P. Deane (1962), *Abstract of British Historical Statistics,* Cambridge, Cambridge University Press. pp. 8-9.

13. Handley, op. cit., p.

14. Ibid., p. 30.

15. Ibid., p. 31.

16. Ibid., p. 31.

17. Ibid., p. 132.

18. Ibid., p. 83.

19. T. Baines (1852), *History of the Commerce and Town of Liverpool,* London, Longman, Brown, Green and Longman, p. 566.

20. Ibid., p. 572.

21. *Billinge's Liverpool Advertiser and Marine Intelligencer,* 1 July 1820.

22. Ibid., 3 October 1820. The same issue carried a letter with 17 signatories, congratulating the master of the *Superb* steam packet on making the 'shortest passage ever known' from Greenock to Liverpool, in 24 hours including stops. The last leg of the journey, from the Isle of Man, was made in 8 hours.

23. See chapter 5.

24. See chapter 4.

25. F. H. Pearson (1896), *The Early History of Hull Shipping,* Howden, Mr. Pye Books, p. 2. Reprinted from the original in *Hull and District Institute of Engineers and Naval Architects,* Vol. 9.

26. Ibid., p. 4.

27. Ibid., pp. 19, 26 and 45.

28. Ibid., p. 6.

29. Ibid., p. 16.

30. Ibid., p. 26.

31. W. Reid (1824), *The London and Leith Smack and Steam Yacht Guide* (1824), Introduction, pp. iii –xii.

32. Pearson, op. cit., p. 2.

33. Reid., op. cit., pp. v-vii.

34. Ibid., p. ix.

35. Ibid., p. x.

36. Ibid., p. vii.

37. *Hull Advertiser,* 28 July 1826.

38. Pearson., op. cit., p. 4.

39. R. L. Hills (1989), *Power from Steam,* Cambridge, Cambridge University Press, p. 145. George Dodd, reporting to Parliament after sailing the *Thames* to London in 1815 (see chapter 5), also discussed the build-up of salt. He advised using two boilers, running one while cleaning the other.

40. Pearson, op. cit., p. 2.

41. Ibid., p. 2.

42. Ibid., p. 2.

43. Many ships were built at small riverside yards, each run by a skilled master shipwright. In his history of the building of wooden ships, Basil Greenhill describes a typical procedure for building a small nineteenth-century vessel: 'The master shipwright who ran the yard did both speculative building, and building to order. [In a typical transaction] he is approached by a potential customer ... a shipmaster from down the river, [who is] a shareholder, and he and some of his associates, his wife, a brother, a local grocer and a brickworks owner are putting up money for a new schooner'. B. Greenhill (1988), *The Evolution of the Wooden Ship,* London, B. T. Batsford, p. 90. A project to build the steam-powered vessel at Thorne on the River Don was likely to have begun on similar lines, using local finance.

44. The farming economy was also related to the enclosure of agricultural land after the first General Enclosure Act of 1801. The historian Phyllis Deane pointed out that ' ... between 1761 and 1792 the acreage [enclosed] was under half a million; over the period of the French and Napoleonic Wars it rose to over a million; [but] in 1816-45 it fell again to under 200,000 acres.' P. Deane (1979), *The First Industrial Revolution*, Cambridge, Cambridge University Press, pp. 44-5.

45. 'Between the first and fifth decades of the nineteenth century total national product seems to have been growing at a rate of about 2.9 per cent per annum ...' Deane, op. cit., pp. 240-1.

46. Pearson, op. cit., p. 10.

47. J. Guthrie (1880), *The River Tyne*, Newcastle, Andrew Reid, p. 38.

48. *Document of Co-Partnership Agreement.* Miscellaneous collection, British Library.

49. Guthrie, op. cit., p. 39.

50. *Scarborough Herald*, 10 November 1836.

51. Ibid., July 1837.

52. See chapter 6.

53. G. Farr (1967), *West Country Passenger Steamers*, Prescot, T. Stephenson, p. 2.

54. Ibid., pp. 62,68 and 89.

55. Mr and Mrs S. C. Hall (1861), *The Book of South Wales, the Wye, and the Coast*, London, Arthur Hall, Virtue and Co., p. 332.

56. Ibid., p. 3 – 'South Wales ... may vie with the North in attractions that reward the lover of nature, the artist, the historian, the ecclesiologist, and the archaeologist'.

57. P.S. Bagwell (1974), *The Transport Revolution*, London, Routledge, p. 53.

58. J. Simmons (1991),*The Victorian Railway*, London, Thames & Hudson, pp. 359-61.

59. L. T. C. Rolt (1966), *Red for Danger*, Newton Abbot, David and Charles, pp. 36-8.

60. Ibid., p. 38.

61. Lieut. R. J. Morrison (1831), *Narrative of the Loss of the Rothsay* (sic) *Castle Steam Packet*, London, Simpkin and Marshall, p. 31.

62. P. Bailey (1978), *Leisure and Class in Victorian England*, London, Routledge and Kegan Paul, pp. 81-2. The author is quoting from PP1875, xvi, 135.

63. *Scarborough Herald*, 15 September 1836.

64. *The Universal Steam Packet Guide, or Traveller's Companion, for the Season of 1842*, London, Simpkin, Marshall and Co., p.9.

65. Mitchell and Deane, op. cit., pp. 217-9.

66. Bagwell, op. cit., p. 53.

67. B. Disraeli (1845), *Sybil*, discussed in R. Blake (1966), *Disraeli*, London, Eyre and Spottiswoode.

Conclusion

Before reviewing the results of the research undertaken for this study, it would be of value to recall its fundamental purpose. Consideration of this suggests that the subject might be best defined in a modified title, on the lines of *An examination of a society's response to the introduction of new technology in the form of the passenger-carrying paddle steamer*. The research has been concerned, more than anything else, with exploring the behaviour of a society when it was given access to a method of travelling totally unlike anything known before.

It is also worth emphasizing again that the form in which steam navigation was introduced into Britain was the result of a socio-economic aspiration quite unlike much of the industro-economic purpose that historically drove most technological change. The social desire for leisure, rather than the economic needs of industry, dictated both the form of the first commercial steamboat, and the character of the subsequent commercial expansion of steamboat operations. How this exceptional change from the more industrial tradition came about is worth reiterating. One of the chief aims of men working on steamboat designs was to make industrial transport more efficient. Circumstances thwarted the first attempts at an industrial application, and in the event, the craft that led the way into commercial operation was one built specifically for leisure travel. Similarly most of the great expansion of steamboat operations that rapidly followed was built up to meet a leisure demand. The remarkable thing is that probably only in Britain could this have happened on the scale that it did. The coincidence of a peculiarly British liking for leisure at the seaside, and the introduction of a new technology to facilitate the satisfying of that desire, created the commercial opportunity for the launch of commercial steam navigation, and the uniquely buoyant market conditions for its expansion.

There were other factors favourable to the growing take-up of passenger-carrying steamboat activity in Britain at the time. Not the least of these was the existence of what was almost certainly the world's first consumer society. Another motivation, shown to be a key to subsequent expansion, was the singularly intense demand for improved passenger travel associated with a unique combination of geographical and socio-economic conditions in the Glasgow region of Scotland. Together the various socio-economic circumstances peculiar to Britain at the end of the eighteenth century governed the leisure-oriented form of the newfound steam navigation technology, and directed its initial progress. This premise establishes the overall socio-economic context of the study, and its importance cannot be overstated. If the pressures arising from socio-economic conditions had been different, steam navigation would no doubt still have developed, but conceivably in different ways. If the canals that carried so much of Britain's inland freight in the first years of the nineteenth century had not been vulnerable to damage from the wash from paddle wheels, commercial attention might well have been concentrated there, instead of (or as much as) on the leisure market. Symington's *Charlotte Dundas* might then, conceivably, have been the forerunner of many more steamboats of its type built for industrial service. In America, steamboat commerce expanded, after Robert Fulton's initiating enterprise, on lines suited to that country's own commercial needs and geographical characteristics. But in Britain the initial market for passenger-carrying steamboat services was built on the desire for leisure and a taste of sea air, which could be increasingly satisfied from society's growing purchasing power, and which commercial interests were quick to exploit.

The social theme with the greatest significance for this study is the question of class. The social condition of Britain at the end of the eighteenth century, out of which came much of the debate in this study about participation in steamboat travel for leisure, was summarised in chapter 7. The society of Regency and early Victorian Britain was fundamentally comprised of two nations, the educated ruling class and the great mass of

the working poor. Every aspect of the social significance of paddle steamer operations discussed in this study is related, even if only indirectly, to that fact. The pervading aim of all discussion of the social significance of steamboat operations in this study is to discover to what extent the opportunity to travel was extended to a widening cross-section of the social classes.

In presenting the findings of research into this subject, primary requirements were to outline the technological history of the paddle steamer, to establish the societal context, and to set out the reasons for the predominance of Scotland in the history of steam navigation. The first commercially practical steamboat service was launched on the Clyde. The people of Glasgow and the islands to the west benefited from the initial spread of steamboat operations, as entrepreneurs exploited a unique pent-up demand for leisure travel. The subsequent expansion of passenger-carrying steamboat activity brought one of the most important questions for this study: to what extent was the working man included in this widening of opportunities for leisure travel?

Evidence of Scottish experience in implementing the new steam-powered vessels has proved to be valuable in revealing localised socio-economic issues. Life for many in scattered island communities, for example, was significantly improved when movement and communication were made easier by the arrival of the steamer. This study has, however, also highlighted the opposing views of some observers who deplored the importation of looser city ways, and the loss of traditional employment, associated with the introduction of steam navigation. Easier and more accessible travel brought social conflict at various levels. Well-to-do Glaswegians enjoyed a new facility to build and lease villas on previously undeveloped shores. Island landowners appreciated a new rental income but resented and fought against incursion by lower-class holidaymakers. Packed excursion steamboats became notorious for the excessive drinking of lower-class holidaymakers, who could expect to find nothing but slum accommodation at resorts.

Creating a large-scale backdrop to the exploration of this leisure activity was the collapse of the outdated Highland rural economy, and the resulting clearances of much of the indigenous population. These left an empty but scenically magnetic playground for the aristocracy, who would be brought there by luxury steamboat for the shooting season.

Research into the spread of inland steam navigation beyond its origins in Scotland, discussed in chapter 4, has led in this study to a first opportunity to challenge an accepted historical concept about the growth of steam navigation. Evidence that runs contrary to the generally accepted picture of geographical extension shows that it was the burghers of Gainsborough, in Lincolnshire, rather than entrepreneurs on the Thames in London, who launched the first scheduled passenger-carrying steamboat service outside Scotland. Discovery of the Gainsborough enterprise, which provided a new and efficient business link with the seaport of Hull, has led on to the exploration of a previously little examined range of passenger-carrying steamboat operations in the north of England. In these services, the initial commercial aim was different from that of the typically leisure-directed operations set up elsewhere.

Extension of mechanised travel to a wider social cross-section in these areas was largely incidental. Commerce and business were the chief areas of interest. Examination shows that for a decade or two, inland steamboat services contributed significantly to effective communication between Hull and the industries of the West Riding. There were also adverse social consequences; the economies of villages suffered when regular steamboat services made it easy for inhabitants to buy goods in city shops. Particularly interesting is the opportunity that exploration of these services has provided for examining ownership and finance. It can be seen that one of the most important players in this field was the merchant, who was often well positioned to benefit from investment.

Examination of the merchant's role has led, in this chapter, to the formulation of an original interpretation of one interesting feature of virtually all steamboat services. Right from the pioneering enterprise of Henry Bell with his *Comet* , the standard of accommodation and service on board paddle steamers was notably superior to that encountered by travellers going by stagecoach. It is understandable that Bell should fit out his vessel to suit the elevated tastes of his upper-class clientele, but the reasons for this more congenial treatment being continued in the business-oriented services on the Trent, for example, are less obvious. Consideration of this question suggests that the origin of high-quality service was related to a new form of ownership. Stagecoaches and the wayside inns that they linked were traditionally run by members of the servant class, grudgingly presenting services representative of their own expectations, and at the lowest level they could get away with. The view that can be put forward from investigation in this study is that owners of the new steamboats, by comparison, would have based their services on standards more in keeping with their own middle-class life-style.

Chapter 5 has shown how the steamboat services that began in London in 1815, and were thronging the Thames by 1820, transformed passenger travel. For more than a century the ubiquitous sculls and wherries of the Company of Watermen had monopolised the carriage of passengers on the river. Their numbers now rapidly fell away, their rowing boats unable to compete with steam-powered craft. Steamboat operators rapidly took over longer-distance passenger travel, to the riverside gardens at Greenwich and Gravesend, and to the Thanet resorts of Margate and Ramsgate. By the 1830s, a decade or more before railways took over, the spectacle of many thousands of passengers aboard steamers on their way down the river became a regular feature of summer-holiday weekends.

The proliferation of steamboat travel on the Thames between 1815 and the 1840s has given this study an important point of focus for examining social-class widening of travel

opportunities. Anecdotal and statistical evidence has made it possible to assert with some confidence, although with some reservations, that Thames steamers were eventually frequented by many of the lower classes. This probability of some of the lower orders being present on the crowded decks of holiday steamers has raised a further question. If they were managing to travel in substantial numbers on steamboats, even if only on bargain-fare holiday occasions, did this lead to unaccustomed mixing of the social classes? Again it has not been possible to arrive at an unequivocal answer, but pointers suggest that on popular short journeys – evening trips to nearby resorts for example - middle-class passengers probably had to accept having to mix with lesser mortals on the vessel, so long as they could disperse to their own preferred locations and pursuits on arrival at their destination.

In the 1840s, the Thames saw the launch of commuter steamer services, which were extensively used by clerks moving daily between home in the western parts of London and their office work in the City. This further ingress of new technology meant the end of employment for the last remaining oarsmen of the Company of Watermen. Operation of the small commuter steamers, like that of all steamboats on the Thames, was characterized by fiercely competitive behaviour. Frequent instances showing disregard for safety aroused the concern of Parliamentary committees, but their strictures were tempered by affirmations that they had no wish to stand in the way of enterprise.

The effect that the introduction of steamboat technology might have on some of the holiday destinations, the seaside resorts, has been discussed in chapter 6. There appears to be no doubt, firstly, that by Victorian times, or in some cases much earlier, seaside resorts acquired socio-economic and cultural qualities that reflected the social class and thus the life-style and leisure bias of the majority of their visitors. Whether the introduction of the steamboat itself changed the nature of the resort remains debatable. Older resorts appear to have acquired their characteristics and class appeal before the

days of steam. Accessibility was a major criterion; greater ease of access brought in the lower orders. Upper classes anxious to keep their distance moved on to more remote destinations when they saw people of the working classes invading their select resort. When later the introduction of large excursion steamers threatened the aristocratic tone of even the more far-off resorts, old-established residents sought to protect their exclusivity by legislating to restrict steamer landings. In one or two instances, such as Margate, the relationship between the development of a resort and the growth of steamer services was almost symbiotic. One behavioural phenomenon most important to this study has been appreciation of the strength of the leisure-preference factor, shown particularly in the determination of industrial wage-earners to travel to the seaside.

The final chapter, examining social aspects of coastal steamer services, has brought a forceful reminder of the divided nature of British society in the first half of the nineteenth century. With their capacity to carry great numbers of passengers crowded on their open decks, the new steamboats brought a benefit for Scottish farmers, enabling them to bring in many thousands of Irish labourers for seasonal harvest work. Many of these stayed in Scotland, ultimately bringing about important ethnic changes in the Scottish population. For the labourers brought over from Ireland, there was no proper accommodation; they were simply packed on deck. The lack of concern with which the English educated middle class regarded this inhuman treatment makes it clear that for many newspaper readers of the Regency and early Victorian period, the poor were seen as a different, sub-human species. Supporting evidence of this aspect of social behaviour has been shown to come from comparable experiences in the early years of the railways.

Records of the effects arising from the introduction of steam navigation – the loss of livelihood of the Thames Watermen and the breakdown of Gaelic-speaking society on Scottish islands, for example – tend to create the impression that the social significance of steamboat operations was largely a matter of the new technology influencing culture

and behaviour in the social environment. In fact, one of the most interesting features of the relationship between the technology and its societal context is the importance of the influence acting in the opposite direction. As Henry Bell found with his pioneering craft, in order to be of use in a successful travel business, these new vessels had to conform to the requirements of the market. Demand dictated, to an observable extent, the applied form of the technology and the way it was used.

The paddle steamer was of significance for transport in Britain for only a short time, its heyday being from about 1815 to 1850, and then only in specific circumstances. Scope for exploiting its capabilities in the domestic context was geographically limited. The scale of its employment before railways took over was hardly noticeable in terms of the national economy; a long time was to pass before the tonnage of steam-powered vessels in Britain reached that of sailing ships. But where the new technology of the paddle steamer met a specific socio-economic need, its impact was significant. The important point is that the steamboat brought socially widening opportunities for travel well before any other form of mechanised passenger transport. No one had experienced mechanised travel before; this was the unique feature that gave it unprecedented cultural and social significance.

By the 1830s, accounts of the numbers of passengers going on leisure steamboat trips in summer, notably down the Clyde and on the Thames, create the impression that steamboat travel by then must have been extended to many of the lower classes. Was this in fact the case? The accumulation of evidence has ultimately made it possible to put forward a positive conclusion, based on assessing the numbers involved from contemporary reports and on anecdotal evidence, and from demonstrations of the power of the leisure-preference principle. Determination to get to the seaside for fun, fresh air and a taste of the sea clearly impelled great numbers of the lower orders to follow the example of the middle classes, and take advantage of the leisure opportunities opened up

by the arrival of steam navigation. In the case of the great growth of steamer activity on the Clyde, no doubts arise about participation by working-class people from Glasgow, as the ample evidence of packed vessels on holiday occasions shows.

At the end of this conclusion it is appropriate to mention again that in addition to compiling a comprehensive picture of the social aspects of the early years of steam navigation in Britain, research for this study has uncovered, in the account of the Gainsborough-led development of steamer services on the river Trent, an original finding about the transfer of this new technology from its place of origin in Scotland. Exploration of developments associated with the Gainsborough initiative has also opened up a view of a little-explored area of passenger steamboat activity, centred on the port of Kingston-upon-Hull, and uncovering information about steamboat finances. Research into steamboat ownership has not only provided a view of aspects of early-nineteenth century commercial practice, but also has allowed the advance of new reasoning about the change in the quality of customer service and accommodation that came with the introduction of steam navigation.

Overall, however, the most significant observations resulting from this work are in the area of social class. It can be said with some certainty that the passenger-carrying steamboat that was introduced on rivers and around the coast of Britain in the early years of the nineteenth century brought a widening of participation in leisure travel, across the social classes, that remained unique until the advent of the railway.

Appendix I. Steamboat and stagecoach fares

From their inception to the peak years in the 1830s, shortly before rail travel became available, steamboat fares fell considerably:

Steamboat

Glasgow to Greenock (12 miles) in 1812: 4s. (20p).

Glasgow to Rothesay (30 miles) in 1831: 1s. (5p).

		Best cabin	Fore cabin
Steamboat, Hull to Gainsborough	1817:	5s. (25p)	4s. (20p)
	1833:	2s. 6d. (12.5p)	1s. 6d. (7.5p)
Steamboat, Hull to York	1817:	7s. 6d. (37.5p)	5s. (25p)
	1835:	4s. (20p)	2s.6d. (12.5p)

Stagecoach* and steamboat fares compared:

Stagecoach before days of steam, Knaresborough-Hull	(Inside), approx. £2.50
Combination of stagecoach and steamboat Knaresborough-Hull, 1835	Best: 11s. (55p) Fore: 6s. (30p)
Stagecoach, Hull-London	Inside, £2.00 Outside, £1. 5s. (£1.25)
Coastal steam packet, Hull-London (£1.05)	Best: £1. 11s. 6d. (£1.57) Fore: £1. 1s.

* The real cost of all stagecoach travel was considerably greater than the advertised fare, and remained so from the eighteenth century through to the days of competition from inland and coastal steamboat services. In 1798, 'a Board of Agriculture ex-employee reported that the whole expense ... was 6d [2.5p] per mile, and one third of this was gratuities.' W.T. Jackman (1962), *The Development of Transportation in Modern England*, London, Frank Cass, p. 344. Philip S. Bagwell has estimated that meals, accommodation, gratuities and extras added about 50% to the advertised price of long-distance stagecoach travel. He compares the £4.4.0 cabin fare by steam packet (which included full board), Edinburgh to London, with the £6.15.0 (plus an inescapable 50% for extras, which made a total of about £9.00) for the journey by stagecoach. Philip S. Bagwell (1974), *The Transport Revolution from 1770*, London, Batsford, pp. 67-8.

Appendix II

Hypothetical profit-and-loss analysis of Thames steamboat operations1. *Cricket* type of vessel, 1847

Figures for steamboat crew wages revealed at the public enquiry into the *Cricket* explosion provide a starting-point for analysing income and outgoings.

Actual wages: Clarke, engineer: £3 a week. 'Other' engineer £2.10.6. Stokers £1.9.0.

Estimated total weekly wages, for one vessel:	Captain	£4.0.0
Engineers (one at £3, one at £2.10.0)		£5.10
Stokers (two at £1.10. 0)		£3.0.0
Seamen (two at £1.10. 0))		£3.0
Boy		£0.10.0
Total crew costs		£16.0.0

Estimated weekly operating costs:

Coal (rounded up to 3 cwt/hour). Say ten hours a day, week's coal 9 tons, at £1/ton: £9.0.0

Other consumables say: £2.0.0

One boat's share of book-keeping, clerical, admin, tickets etc: £1.0.0

Amortization of capital on say £6000 over 4 years: £30.0.0

Total £42.0.0

Overall total £58.0.0

Break-even point:

At the halfpenny fare, rounded down to 1/500th of £1 per passenger, number of fares to break even would be 58 x 500 = 29,000 per week

If the legal total of 100 were carried, this would require 290 journeys per week, or say 48 journeys (24 round trips) in a day, which seems a high number to achieve. If only 24 journeys (say) could be made in a day (that is, 12 round trips), 200 passengers would be needed on each run to break even.

The above figures for operating costs have been rounded up to what may be a generous extent. There may well be other costs not included here, such as repairs and down-time for maintenance and bad weather. If the above are near the real costs, there would clearly be a very strong incentive to pack as many as possible aboard, and to run the engine hard, in order to make as many trips in a day as possible.

(Estimates for Gravesend steamboats follow).

Appendix II continued.

2. Steamboat on Gravesend run.

The starting point for this hypothetical analysis is the listing in Humpherus of steamboat passengers carried to Gravesend in the one month of June 1844. The total was 331,749, and of these 100,916 were carried in the five vessels of the Star company. For convenience this is rounded to 100,000.

5 Star boats – 100,000 passengers in a month
1 boat - 20,000 in month, or approximately 5,000 per week.

Assuming an average fare of 2/- (10p), revenue per boat per week would be £500.

If 200 passengers on average were carried on each trip, this would require 25 journeys to be made each week.

Cost of 25 journeys, one week:

Coal, guessed at 3 tons per trip	£75.00
Other consumables, say	£30.00
Share of admin., tickets, book-keeping etc	£10.00
Crew costs (detailed below)	£27.00
Amortization, say, on a £20,000 vessel, over 5 years	£80.00
Total week's costs	£222.00

On this guesstimated basis, profit would be at about £278.00 a week, but steamboats on this route would operate for only about six months in the year. In the non-working months, there would be little fuel cost, and much less crew cost, but amortization and other costs would continue, as would those for repair and refurbishment.

Weekly crew costs in the above are estimated as :

Captain	£5.0.0		
Two engineers	£8.00		
Three stokers	£6.00		
Deck hands, steward etc	£8.00	Total	£27.00

Based on this analysis, a year's profit from a £20,000 steamboat run for the summer six months would be 25 x £278 = £6950.00. From this, an investor putting in the traditional 1/64 of the capital cost (£312) could look for an annual return of perhaps £100, which is not far from the 30% claimed for investment in a vessel on the Trent, advertised in Hull (see chapter 4). The figures for operating costs have been rounded upwards so as to err on the conservative side, so profits might conceivably be higher.

Appendix III

Observations on the numbers and regional distribution of steam vessels operating in Britain in the second quarter of the nineteenth century, as recorded in official statistics for 1829, 1835, 1845 and 1851.

Since the purpose of this study is essentially to explore the social significance of the introduction of the passenger-carrying steamboat, information from research has in general been examined primarily for its social content. Nevertheless a more complete picture of the early history of steam navigation can be assembled if statistical records of a comprehensive economic kind can also be utilised, supplementing evidence of social, cultural and behavioural change. One substantial element of such evidence, indicating the scale of the development of steam navigation, and in particular the geographical spread of steam vessel operations, is set out in the statistical lists reproduced in the following pages.

The lists as shown here have been taken from the official returns that were made to Parliament by the British Registrar of Shipping, in 1829, 1835, 1845 and 1851. For uniformity and to save space, the lists have been adapted to show only the key parts of the information - every vessel's name and location, its tonnage* and, where known, the year of registration. Additional notes that were included in some of the originals, such as comments on each vessel's capacity to carry guns, have been omitted.

Regional distribution

At the time when the first of the surveys shown here was made, in 1829, there was found to be a total of 310 steam vessels owned or operating in England, Wales and Scotland. The geographical pattern of use, which is of interest for its implications about relative levels of commercial activity, can be seen in the figures listed. A comparison of the amount of steam vessel activity in the various regions of Britain can be made by converting the numbers recorded in the returns into percentages, which work out as follows:

Percentage shares of steam vessel activity by region in 1829: London: 18.4. Bristol Channel: 3.9. Liverpool: 17.1. South coast: 4.8. North East: 20.3. Hull and the East Coast: 12.3. Scotland: 22.3.

As might be expected, London, Scotland and the Liverpool area show the greatest amounts of activity, measured by the numbers of steam vessels belonging to or registered at the relevant ports.

However, a comparison of steam vessel activity at the three leading ports (London, Liverpool and Newcastle) on the basis of steam vessel tonnage, instead of numbers of vessels, shows a different picture:

Port	Tonnage	% of UK total tonnage	Average tonnage per vessel
London	8,110	30.7	142
Liverpool	5,792	22.0	123
Newcastle	1,043	3.95	19.7

Measured by tonnage, London had an even greater share of steam vessel activity than is shown by vessel numbers. However, one striking figure among these is the remarkably low tonnage return for Newcastle. Whereas the Newcastle area had over 20% of the overall UK activity by steam vessel numbers, it was involved in a mere 3.95% of the UK activity when measured by vessel tonnage. The returns show that a number of the steamboats operating there were rated at tonnages as low as 10 or even less, and there were very few vessels there in the 100-ton class. The figures for Newcastle suggest that steamboat operations there were of a different kind from those in the other main locations.

Further research would be necessary to arrive at an authoritative reason for the difference, but from other evidence explored in this study, it appears probable that the large numbers of small low-tonnage steam craft were associated with the region's industrial concentration on coal mining, and the transport of coal by sea to London. The carriage of coal by sailing vessel from the Tyne reached enormous levels by the nineteenth century, (details of this commerce are discussed in chapter 5), and it is probable that large numbers of small steam-powered vessels were employed locally as tugs, engaged in towing laden coal ships down the Tyne (and possibly the Tees and Wear) and taking them out to sea.

By the time of the 1845 and 1851 returns, there were also other signs of changing conditions in the Newcastle region, although again further research would be required to establish the reasons. In 1845, Newcastle was shown to have 149 steam vessels, and their average capacity had risen from the 19.7 of 1829 to 23 tons – still indicating a very small size of vessel compared with the tonnages being reached elsewhere. A change of possibly greater significance shows up in 1851, when the UK total of steam vessels had reached 1,180**. In the six years from 1845, the Newcastle location's total of 149 steam vessels had fallen to 56, though with a further increase in average vessel capacity to 38 tons. From the limited evidence, it is not possible to do more than put forward conjectural reasons. It is probable, for example, that there was a fall in the need for tugs on the Tyne as railways began to take a growing share of the transport of coal to London.

Also in later returns, evidence can be seen of the entry of significantly large steam vessels (1000 tons and more) among those operating from London and Liverpool. These are clearly indications of the continuing development of the steamship into ocean-going maritime service. Another factor was also altering the amounts and locations of steamboat activity: by 1850, railways had already made many inland passenger-carrying and package steamboat services redundant. One result would have been that places such as Hull would register fewer small vessels, and more of the larger sizes, as that port's transport interests moved increasingly to coastal and North Sea traffic. Consequent changes in the distribution of steam vessels, which are briefly discussed in chapter 4, were reflected in the returns.

Changes recorded in the numbers and sizes of steam vessels at resorts around the coasts of England and Wales, and in Scotland, can be seen in part as evidence of the later nineteenth-century move to the larger type of excursion vessel for leisure journeys. In the London figures, there are also entries for the smaller type of vessel, indicating the continuing operations of short-journey commuters' steamboats on the Thames. Overall, the returns offer considerable scope for study, especially for the statistical input they can provide in support of, or for comparison with, findings made on a more anecdotal basis.

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* A ship's net tonnage is a measure of its useful carrying capacity - that is, its internal volume, excluding the space taken up by the engine room, expressed in tons of 100 cubic feet. The gross tonnage (listed in some of the returns), adds the engine-room and other working space to the figure for net tonnage.

** At about the same time (1850), 24,797 sailing vessels were still registered in the UK, with a total capacity of 3,397,000 tons. Mitchell, B. R. and Deane, P. (1962), *Abstract of British Historical Statistics*, Cambridge, Cambridge University Press, pp. 217-219.

Steam vessels belonging to or registered at ports in Great Britain in 1829.
Data extracted from the return to Parliament detailed in PP1829, XVII.

PORT	NAME	TONS.	Year
London	Soho	238	1829
	Tourist	178	1821
	City of Edinburgh	291	
	James Watt		1821
	Queen of the Netherlands		
	Thistle		1825
	King of the Netherlands		
	Tiltida		
	Westminster		
	Dundee		
	Waterloo		
	Enterprize		
	Eclipse		1821
	Royal		
	Hyderus Jolliffe		
	Rabbet		1825
	Ethel		
	Bankbank		1824
	Sir Frederick Adam		
	Earl of Liverpool		
	Attwood		1825
	Lord Melville		1825
	London		1817
	Glasgow		1817
	Duke of Clarence		1817
	Nimrod		
	City of London		1824
	Albion		1825
	Rosslyn		1825
	Sir Joseph Yorke		1822
	George Rennie		
	King of Oude		
	Sir Edward Banks		1825
	Royal Sovereign		1822
	Falcon		
	Malvina		1824
	Courier		1825
	Enterprize		1825
	Harlequin		1825
	William Jolliffe		1825
	Hawk		1825
	Albion		1825
	Venus		1825
	Columbine		1825
	Margaret		1825
	Kelpie		
	Hero		1825
	Ramona		1825
	Nottingham		
	Dairy Maid		1827
	Endeavour		1825
	Duke of York		
	Sophia Jane		1827
	Rapark		
	George the Fourth		
	Dart		1825
	Mercury		1825
Beaumaris	Prince Llewelyn	91	1825
	St. David	80	1825
Bristol	City of Bristol		1825
	Cumbria		1825
	Duke of Beaufort		
	Glamorgan		1825
	Palamedon		1825
	Wye		1825
	Saint David		
	George the Fourth		
Cardigan	Cumberland	291	
Carnarvon	St. Pierre		1825
	Worcester		
	Paul Pry		1827
Cowes	Prince Coburg		
	Earl of Malmsbury		
	Medina		
Dover	Britannia		1825
	Malvina		1825
	Royal George		
	Sovereign		
Grimsby	Pelican		
Hull	Atlas		1825
	Albion		1825
	Alice		
	British Queen		
	Britannia		1825
	Calder		
	Caledonia		
	Duke of Wellington		
	Dart		1827
	Eton		
	Eagle		
	Elizabeth		
	Favorite		
	Greathead		
	Graham		
	Humber		
	Hero		
	John Bull		1825
	London		
	Lowther		
	Leeds		
	Mimosa		
	Prince Frederick		1825
	Stillman		
	Rockingham		1825
	Royal Charter		
	Robin Hood		
	Trent		
	Victory		
	Wilberforce		1827
	Yorkshireman		
Ipswich	Suffolk		1825
	Spanish		

PORT	NAME	TONS.	Year
Lancaster	John o'Gaunt	97	1825
Liverpool	Prince Regent		
	Lady Stanley		
	St. George	201	
	Emerald Isle	200	
	Henry Bell	118	
	James Watt	116	
	Lilly	102	
	Mersey	102	
	Shamrock	102	
	Tubiti	9	
	Hibernia	110	
	Britannia	110	
	Manx	102	
	Lord Blayney	102	
	City of Dublin	97	
	Satellite	72	1825
	Original	72	1825
	Abbey	72	1825
	Surrey	72	
	Victory	72	
	Harriet	72	
	Bridgewater	72	
	Prussia	72	
	James	72	
	Manchester	72	
	George the Fourth	72	
	William Huskisson	72	
	St. Patrick	72	
	Earl of Bodin	72	
	City of Londonderry	72	
	Hero	72	
	Lee	72	
	Magdalene	72	
	Gipsy	72	
	St. David	72	
	Duke of Bridgwater	72	
	Eclipse	72	
	Etna	72	
	Maria	72	
	Britannia	72	
	Vesuvius	72	
	Hercules	72	
	Alice	72	
	Somerube	72	
	John Bull	72	
	Herald	72	
	William Fawcett	72	
Newcastle	Archangel	97	1825
	John and Mary	91	1825
	Glasgow	17	
	Tyne	16	
	Diligence	16	1824
	Hero	16	
	Albion	16	1825
	Dove	16	
	Lion	16	
	Northumberland	16	
	John and Isabella	11	
	Gateshead	11	
	Friendship	11	1825
	Star	11	
	George and William	11	
	Ann	11	
	Newcastle	11	
	Village	11	
	Tyne	11	
	T. L.	11	1827
	Hunter	11	1825
	Freedom	11	
	Velona	11	
	Favorite	11	1825
	Aunt and Jane	11	1822
	Victory	11	
	Berington	11	
	Duchess of Northumberland	11	
	Intelligible	11	1825
	Mary and Isabella	11	
	Percy	11	1825
	Providence	11	
	Diligent	11	1825
	Serpent	11	
	Adeline	11	1825
	Brilliant	11	
	Duke of Wellington	11	1825
	Elizabeth	11	
	Fly	11	
	Hope	11	
	Hero	11	
	Jane	11	
	Majestic	11	1824
	Mayflower	11	
	Mackey's	11	
	Mary Ann	11	
	Rapid	11	
	Scepter	11	1825
	Swan	11	1825
	Two Brothers	11	1825
	Union	11	
	Sarah	11	
Newport	Lady Rodney	96	1825
Plymouth	Sir Francis Drake	112	1825
	Brunswick	172	1825
Portsmouth	Arrow	46	1825
	Union	28	1825
	Lord Yarborough	27	
	Pelican	22	
Southampton	Camilla	102	1824
	George the Fourth	90	1825
Stockton	Albion	71	
Sunderland	Eclipse	91	
	Four Brothers	19	
	Safety	19	
	Wear	33	
	Newcastle	34	

PORT	NAME	TONS.	Year
Sunderland—*continued.*	Neptune	41	1825
	Utility	28	
	Sarah	15	
	Portfield Packet	4	
Swansea	Bristol	76	1825
Whitehaven	Countess of Lonsdale	150	1827
	St. Andrew	82	
Yarmouth	Thames	41	
	Sovereign	35	
	Falcon	28	
	Nelson	28	
Aberdeen	Velocity	155	1821
	Brilliant	150	
	Queen of Scotland	304	1827
	Paul Jones	97	1827
Campbeltown	Maid of Islay	91	1825
	Duke of Lancaster	91	1825
Dundee	Athell	91	
	Hero	80	
Glasgow	Active	89	1825
	Ailsa Craig	110	
	Arrowell	71	
	Albion	68	1824
	Argyle	67	1824
	Bangor Castle	47	
	Ben Nevis	44	
	Britannia	72	
	Caledonia	72	1825
	City of Glasgow	180	1825
	Comberare	80	
	Countess of Glasgow	89	
	Clarence	70	1827
	Cupid	17	1825
	Dispatch	81	
	Dumbarton Castle	81	1825
	Dunvon Castle	100	1825
	Glasgow	181	1825
	Enterprize	135	1824
	Favorite	80	1824
	George Canning	80	
	Gulliver	72	1825
	Helensburgh	81	1825
	Hercules	72	
	Highlander	72	1827
	Highland Chieftain	58	1817
	Industry	58	1814
	Inverary Castle	58	1825
	James Ewing	80	1825
	Lange	82	1825
	Londonderry	102	1825
	Maid of Islay	74	1825
	Maid of Morven	58	1825
	Majestic	82	
	Oscar	45	
	Rothesay Castle	70	1825
	Sampson	83	1825
	St Catherine	78	
	St. Ouvrey	72	1825
	Sir John Moore	83	1825
	Sovereign	83	1825
	Selina	72	1825
	Toward Castle	72	1825
	Trusty	72	1824
	United Kingdom	336	
	Waverley	84	1825
Grangemouth	Lady of the Lake	60	
	Morning Star	74	1825
	Stirling Castle	75	
Greenock	Glasgow	84	1825
	Perfie	100	
Irvine	Air	75	1825
Kirkaldy	Edinburgh Castle	95	
	Thane of Fife	95	
	Earl of Kellie	90	
Leith	Tay	42	
Port Glasgow	Beelzemond	70	1825
	Levin	72	
	Dumbarton	81	1825
	Lady of the Lake	60	
	New Dumbarton	95	1825
	310 Vessels	18,374	

Steam vessels belonging to or registered at ports in Great Britain in 1835.
Data extracted from the return to Parliament detailed in PP 1835, XVIII.

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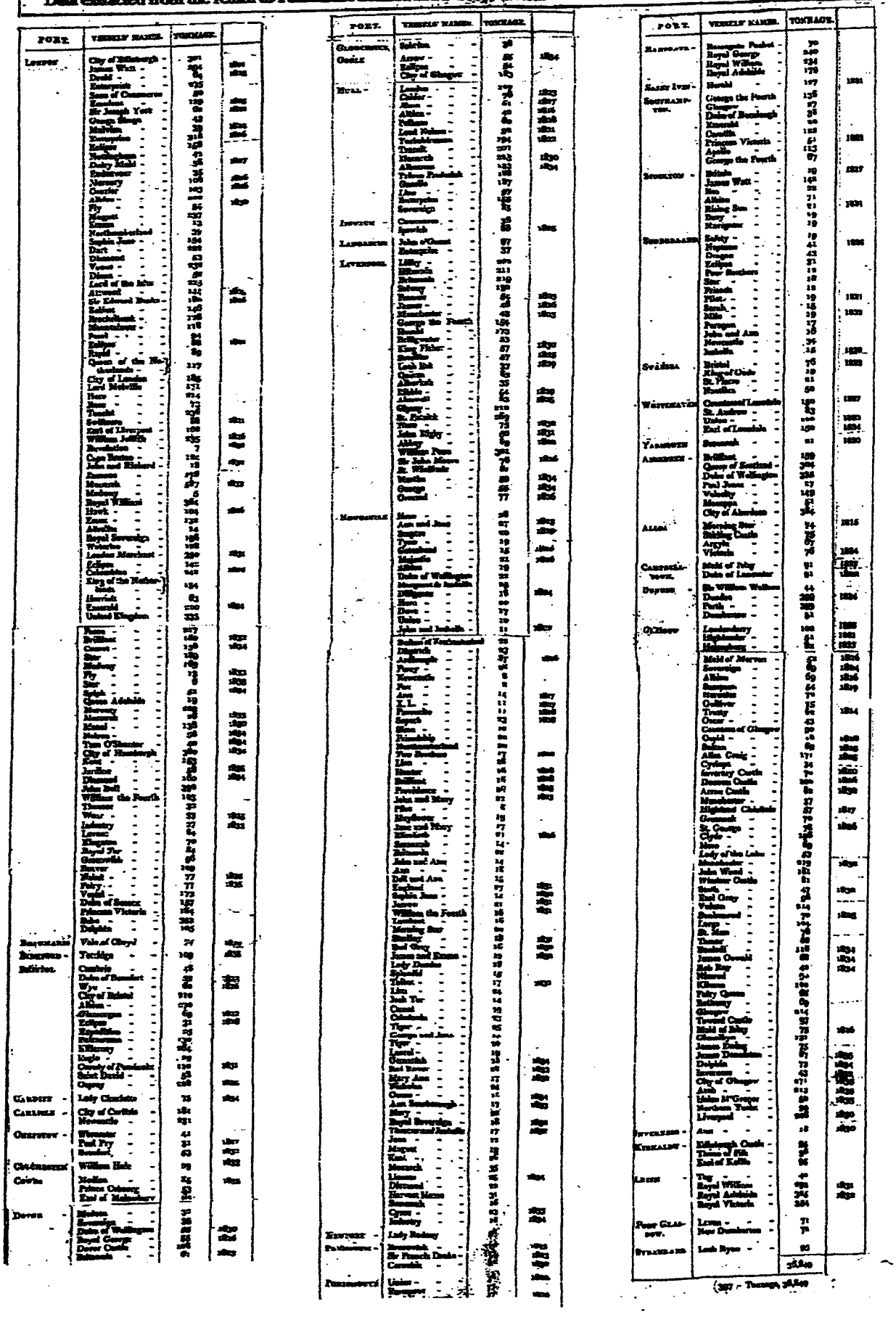

Steam vessels belonging to or registered at ports in Great Britain in 1845.
Data extracted from the return to Parliament detailed in PP 1845, XLVII.

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Name	Tons	Year
Port of London		
Druid	64	
Emulous	129	1826
Sir Joseph Yorke	62	1822
Malvina	39	1834
Enterprise	218	1836
Mercury	109	—
Eclipse	66	1821
William Jolliffe	235	1826
Revolution	7	1832
John and Richard	16	—
Hawk	104	1826
Fly	12	1829
Star	6	—
Nelson	58	1834
Jardine	58	1835
Greenwich	96	—
Beaver	169	—
Vestal	173	—
Dolphin	105	1834
Pearl	146	1836
Robert and Henry	23	—
Comet	158	1834
Star	228	—
Planet	184	1835
City of Canterbury	156	—
Red Rover	148	—
Princess Victoria	163	—
Novelty	47	—
Water Lily	85	1836
City of Hamburgh	393	1834
John Bull	345	1836
Gem	103	—
Harlequin	185	1836
Tourist	112	1831
Caledonia	423	1836
Ramona	178	1838
Attwood	180	1828
City of London	104	1834
Royal Sovereign	102	1832
Menai	136	1830
Venus	186	1831
Lord Melville	116	1822
Dartford	122	1836
Soho	202	1830
Belfast	110	1830
Giraffe	222	1836
Dart	148	1826
Ionia	106	1836
Magnet	106	1836
Rennie	29	1834
Kent	15	1826
Clarence	420	1836
Albion	105	1832
Atalanta	389	1836
Countess of Lonsdale.	208	—
Fame	179	1834
Neptune	267	1837
Jane	13	1830
Sir Robert Hawks	44	1836
Earl of Liverpool	145	1833
Neptune	42	1834
James Watt	201	1821
Ariel	53	1837
Industry	27	1833
Wear	33	1835
Thames	24	1834
Minerva	29	1837
Vesta	102	1836
Eagle	27	1837
Falcon	38	—
Rainbow	203	—
Kilkenny	277	—
Water Hen	12	—
Leith	208	—
Thistle	32	1839
Vesper	27	—
Ocean	276	1838
Vesper	109	1837
Daylight	36	1838
Starlight	30	—
Twilight	30	—
Moonlight	30	—
Archimedes	63	1839
Water Fly	11	1836
United Kingdom	331	1826
Bridegroom	25	1839
Bride	24	—
Bridesmaid	27	—
Pluto	176	—
Prince	43	—
Queen	419	—
Eclipse	41	—
Queen Victoria	25	1837
William Gunston	21	—
Ospaland	30	1838
Vivid	25	1840
Courier	153	1838
Argus	159	1840
Peru	457	—
Chile	457	—
The Duke	60	—
Sea Horse	243	1837
Nymph	61	1838
Eclipse	71	1840
Majestic	148	1841
Lotus	37	1836
Commodore	40	1840
Amoy	38	1839
Hercules	32	1838
Unity	58	1840
Sir Edw. Banks	150	1836
Montrose	388	1837
Topaz	23	—
Wilberforce	208	—
Iberia	322	1838
Queen Victoria	27	1840
Juno	282	1835
Ipswich	91	1838
Ruby	100	1837
Princess Victoria	404	1841
Fly	54	1839
Rocket	40	1841
Royal Tar	64	1833
Cairo	44	1841
Liverpool	387	1837
Cornubia	93	1838
Vivid	238	1835
Water Witch	276	—
Saint Michael	16	1838
Hercules	64	1837
Perth	1,148	1841
Thames	302	—
Tweed	1,148	—
Dee	1,236	—
Medway	344	—
Lady Mary Wood	227	1842
Satellite	85	1841
Trent	267	—
Prince of Wales	60	—
Little Nile	38	1839
Trident	645	1841
Sumana	21	1842
Emanuel	26	1841
Isle of Thanet	117	1842
Columbine	241	1838
Avon	1,200	1842
Severn	1,295	—
Novelty	219	—
Medway	58	1837
Hindostan	971	1842
Liverpool	295	1830
Tagus	496	1837
Fairy	57	1838
Naiad	71	—
Syren	38	1841
Niobe	38	—
Flora	33	—
Monarch	516	1833
Venezuela	282	1840
Witch	40	1840
Sylph	54	1834
Locomotive	42	1843
City of Glasgow	271	1835
Royal Tar	300	1830
Hardy	54	1830
Bogbee Bey	7	1841
Grey Mare Meg	14	1842
Colchester	45	1840
London Merchant	308	1831
Diamond	122	1834
Victory	60	1837
Nelson	61	1838
City of Boulogne	124	1836
Oriental	382	1840
Psyche	303	1843
Thames	42	1842
Duchess of Kent	147	1836
City of Glasgow	188	1832
Sir William Wallace	102	1839
Prince George	90	1838
Duke of Sussex	105	1835
Emerald	101	1834
Little Western	298	1841
Swiftsure	78	1831
Bantock	941	1842
Magician	90	1842
Queen	79	—
Great Northern	771	—
Royal Charter	65	1838
Fiddler	35	1840
Wurtzburgh	180	1843
Monarch	98	1832
Mannheim	148	1842
Father Thames	98	1840
Sons of the Thames	30	—
Innisfail	180	1836
William the Fourth	178	1831
Fire Queen	270	1842
Beacon	102	1837
London	41	1838
Kingston	84	1839
Powerful	87	1842
Sapphire	116	—
Samson	84	1837
Lion	34	—
Unity	12	1844
Propeller	88	1840
Gipsey	84	1838
Princess Royal	46	1844
Fawn	46	—
Lion	71	—
Precursor	1,132	1841
Princess Mary	180	1844
Meteor	114	—
Unicorn	60	—
Trinity	36	—
Princess Royal	80	1841
Princess Maud	141	1844
Princess Victoria	82	1838
Robert Bruce	42	1844
Queen	240	—
Victory	28	1840
Jarrow	21	1831
Tom O'Shanter	40	1844
Herne	140	1842
Robert Burns	41	1837
Souter Johnny	37	1838
Caledonia	42	1838
Sir William Wallace.	47	1841
Delta	142	1844
Zephyr	106	1838
Prince Albert	140	1842
Mercury	144	1836
Matrimony	37	1842
Braganza	371	1838
Bookster	38	1840
Mannheim, 2	148	1844
Tay	1,141	1841
New Unity	85	1844
Twist	1,132	1841

Steam vessels belonging to or registered at ports in Great Britain in 1845.
Data extracted from the return to Parliament detailed in PP 1845, XLVII.

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Name	Tons	Year
Port of London—continued.		
Clyde	1,100	1841
Rodney	13	1844
Waterman, 1	33	1843
Waterman, 2	40	1844
Waterman, 3	47	—
Waterman, 4	47	—
Waterman, 5	37	1842
Waterman, 6	40	—
Waterman, 7	40	—
Waterman, 8	38	—
Waterman, 9	40	1843
Waterman, 10	41	1844
Waterman, 11	44	—
Waterman, 12	61	—
Ondine	60	1845
Queen of the Belgians.	100	1844
Corkscrew	135	—
Mystery	15	—
Lord Collingwood	22	—
Rotodoor	220	—
Edinburgh Castle-	104	—
Berwick:		
Ardincaple	76	1838
Rapid	222	1838
Manchester	210	1838
Boston:		
Enterprize	124	1838
Isabella	70	1838
Bridgewater:		
Endeavour	17	1837
Perseverance	15	1839
Bristol:		
Wye	60	1838
Star	149	1843
Fury	13	—
County of Pembroke.	70	1838
Linnet	15	1834
Lion	22	1838
Great Western	670	1837
Phœnix	134	1838
Usk	77	—
Samson	91	—
Lady Charlotte	75	1834
Hercules	15	1838
Shamrock	221	1839
Torridge	115	1838
Air	50	1838
Tiger	42	1840
Kite	248	1842
Samson	37	1843
Wye	65	1838
Cambria	42	1838
Osprey	228	1845
Glamorgan	68	1838
Duke of Beaufort	59	—
Avon	64	1844
Severn	63	—
Swift	100	—
Great Britain	1,843	1843
Cardiff:		
Superb	23	1838
Dragon	30	1837
Carrickfergus:		
Royal Victoria	215	1837
Hibernia	221	1834
Clarence	60	1839
Carrickfergus:		
Dolphin	70	1834
Chepstow:		
Peel Fry	31	1837
Beaufort	58	1838
Worcester	17	1838
Chester:		
Alexander	40	1838
Vale of Clwyd	70	1838
Skimmer	70	1839
Rushell	15	1834
Dairy Maid	18	1837
Talisman	74	1842
Clay:		
Premier	19	1837
Colchester:		
William Hole	30	1838
Dover:		
Duke of Wellington	85	1839
Royal George	81	1838
Water Witch	73	1835
Britannia	82	1839
Exeter:		
Dolphin	18	—
Faversham:		
Venus	9	1838
Gainsborough:		
Columbine	85	1840
Adler	40	1838
Goole:		
Arrow	51	1834
City of York	65	1838
Fletcher's Despatch	35	1839
Railway	74	1839
Eagle	83	1845
Hull:		
Rhea	61	1837
Albion	42	1836
Pelham	60	1838
Lord Nelson	83	1841
Sovereign	85	—
William Darley	200	1836
Pelham	51	1837
Iris	63	1838
Monarch	200	1839
Lindsay	45	1836
Jupiter	60	1837
Calder	76	1838
Transit	200	1841
London	100	1836
Hotspur	14	1839
Helen M'Gregor	120	1842
Queen of Scotland	405	1837
Assassin	16	1838
Cambridge	60	1837
Senator	100	1841
Gazelle	200	1842
Margaret	140	1842
Tiger	37	1838
Bob Roy	254	1838
Victoria	200	1837
Ipswich:		
Orwell	120	1841
Orion	84	1839
River Queen	42	—
Lancaster:		
Duchess of Lancaster.	104	1839
Lily of Preston	42	—
Liverpool:		
Manchester	42	1836
Kingfisher	57	1839
Satellite	65	1836
George	68	1834
Martha	69	—
Egerton	57	—
Cleveland	42	1836
Bridgewater	57	1832
Cheshire Witch	42	1837
John Higby	33	1831
James	43	1836
William Fawcett	44	1838
Sir John Moore	76	1838
Union	150	1838
Ranelagh	70	1834
Egremont	69	1836
Thomas Boyden	64	1837
President	33	1839
Victoria	33	1837
Moss	65	1831
Hero	126	1831
Ethiopé	32	1839
Abbey	57	1839
Nemesis	85	1839
Albert	68	1840
Elizabeth	51	—
Tower	47	1836
Phlegethon	120	1840
Rival	69	1834
Belgian	70	1836
Troubadour	400	1841
Mersey	74	—
Brewster	64	1836
Blanche	105	1841
Windermere	71	1836
Royal Sovereign	200	1839
Pilot	66	1842
St. David	110	1834
Hercules	225	1838
Earl of Elgin	42	1844
Warrington	100	1840
Emerald	271	1835
Llanelly:		
Harriet	96	1836
Lynn:		
Linnet	18	1836
Yorkshireman	134	1838
Albion	41	1816
Newcastle:		
Ann and Jane	27	1838
Sceptre	60	1835
Gateshead	15	1838
Majestic	21	1838
Duke of Wellington.	68	—
Diligence	13	1834
Ann	15	1817
Swan	10	1838
Friends	20	—
Two Brothers	17	1838
John and Mary	23	1838
Elizabeth	21	1838
Sophia Jane	14	1838
William the Fourth	18	1831
Talbot	17	1838
Caledonia	28	—
Gateshead	28	1834
Red Rover	28	1838
Ocean	18	1834
Ann Scarbrough	17	1838
Thomas & Isabella	17	1838
Cyrus	22	1835
Charles & William	17	1834
Majestic	14	—
Endeavour	28	1833
John and Isabella	11	1833
Champion	18	1836
Vivid	28	1833
Active	18	1838
Wansbeck	18	1838

Steam vessels belonging to or registered at ports in Great Britain in 1845.
Data extracted from the return to Parliament detailed in PP 1845, XLVII.

Name	Tons	Year
Newcastle—continued.		
Byron	14	1836
Montrose	14	1837
Alert	14	—
Vesta	101	—
Briton	22	—
Nelson	12	—
Margaret & Mary	14	—
Dolphin	12	—
Undaunted	12	1838
Endeavour	12	—
Hotspur	12	—
Rising Sun	15	—
Orlington	17	—
Queen Victoria	15	1837
Advance	15	1838
Rob Roy	14	—
John and William	22	—
Ranger	12	—
Joseph & Elizabeth	12	—
Blucher	6	—
Tiger	12	—
Blessing	12	—
X. L.	11	1837
Good Intent	17	1838
Success	12	—
Content	16	—
Invincible	17	1839
Margaret	15	—
Progress	15	—
Mallard	19	—
Victory	21	1836
Falcon	12	1837
Cupid	24	1838
James and Emma	9	1838
Providence	22	1838
Mary Ann	17	1838
Margaret	12	1838
Morning Star	9	1838
Neptune	24	1837
Twilight	26	1839
Morley	19	1837
Rapid	20	1838
Friesian	20	—
Diadem	18	1838
Perthshire	20	1840
Tigress	15	—
Comet	17	1838
British Dominions	18	1840
Duncannon	26	1841
Vesper	14	—
Trump	16	—
Don	20	—
Princess	20	—
Sterling	18	1838
Conquest	19	1840
Nelherton	18	1838
England	27	1838
Prince Albert	15	1842
Premier	15	—
William	19	1843
British Queen	15	—
Ben's Wing	15	—
Catherine	17	—
Royal Sovereign	20	1838
Bellington	214	1840
Lioness	20	—
Collingwood	11	—
Comet	22	1840
Perverito	20	1838
Lionel	19	1842
Seaton	21	1840
Martello	20	—
Ranger	12	—
William and Mary	25	—
Ellen Browne	22	—
Wendover	16	—
Alice	10	—
Dove	19	1838
George and Jane	10	1838
Waterwitch	12	1843
Queen of the Tyne	20	—
Lark	11	—
Nicholas	24	1838
Martello	19	1843
Pursuit	12	—
Pudley	16	—
Messenger	19	—
Roberts and Ann	18	—
Neptune	174	1837
Tiger	5	1838
Eclipse	95	1838

Name	Tons	Year
Newcastle—continued.		
Loch Ryan	197	1839
Samson	16	1844
Cygnet	22	—
Powerful	99	1842
Ocean Bride	17	1844
Dart	18	—
Exmouth	18	—
Liberty	9	1842
Olive	18	1844
Brilliant	18	1838
Planet	22	1839
Little Western	20	1844
Prince Albert	15	1840
Earl Grey	16	1839
Sea	20	1839
Lion	12	1844
Mercury	22	1838
Q. E. D.	271	1844
Esther	22	1838
Admiral	18	1840
Mary and Isabella	18	1838
Ann and Margaret	20	1843
Venus	20	1845
Don	18	—
Hunter	18	1839
Newport:		
Lady Newport	88	1838
Eclipse	80	1838
Penzance:		
Sir Francis Drake	180	1838
Brunswick	173	1838
Alert	15	1838
Portsmouth:		
Lord Yarborough	84	1838
Earl Spencer	80	1838
Union	84	1838
Preston:		
Cupid	19	1838
Tobermory	67	1839
James Dennistoun	78	1838
Prince of Wales	212	1840
Eclipse	168	1838
Ellis	67	1837
Experiment	19	1840
Rapid	40	1838
Princess Alice	417	1840
Isabella Napier	227	1840
Her Majesty	188	1841
Ramsgate:		
Ramsgate Packet	28	1834
Royal George	126	1831
Royal William	200	—
Royal Adelaide	160	—
Prince of Wales	120	1838
Rochester:		
Lee	46	1840
Atalanta	41	1841
St. Ives:		
Herald	126	1831
Cornwall	200	1841
Brilliant	141	1832
Southampton:		
Forester	28	1838
Atalanta	260	1838
Camilla	173	1834
Ariadne	197	—
Montrose	214	1839
Gem	88	1839
Ruby	110	1841
Medina	67	1838
Duke of Beaufort	88	1841
Earl of Malmesbury	70	1838
Solent	61	1841
Glasgow	46	1838
Calpe	200	1838
Lady de Saumarez	284	1838
Grand Turk	260	1837
Robert Burns	260	1838
South Western	202	1838
George the Fourth	80	1838
Transit	207	1838
Pearl	61	1841
Wonder	200	—

Name	Tons	Year
Stockton:		
Britain	22	1837
Rising Sun	21	1838
British Dominions	22	1839
United Kingdom	19	1840
British Queen	22	1840
Queen	18	1838
Duke of Sussex	26	1839
Sea Horse	26	—
Tees	15	1838
Middlesbro'	22	1839
Tyro	17	1838
Harvest Home	15	1838
Ranger	22	1837
Pilot	22	1842
Vigilant	12	—
Mary	11	1838
Vanguard	22	1841
Dragon	19	1838
Britannia	18	1841
Stockton	17	1837
Sydney	41	1844
Alice	22	1838
Victory	41	1844
Sunderland:		
Belmont	21	1841
Content	17	1837
Dart	6	1838
Hazwall	22	1844
Jack Tar	6	1839
Lord Durham	19	1844
Wilo	27	1838
Mary and Jane	17	—
Neptune	47	1840
Prospect	22	1837
Pride in the North	4	—
Pilot	14	1831
Queen	14	1837
Hunter	22	1838
Swanson	8	1838
Tyneside	16	1837
William and John	24	1843
Whitwell	10	1841
Swansea:		
Bristol	26	1838
Samson	17	1838
Rapid	16	—
Dragon Fly	16	1840
Prince of Wales	168	1842
Flower	19	1843
Lord Beresford	22	1844
Chieftain	20	1844
Truro:		
Dart	17	1837
Wells:		
Economy	17	1838
Weymouth:		
Rose	67	1839
Whitby:		
Stromeshalk	45	1838
Whitehaven:		
Countess of Lonsdale	160	1837
Earl of Lonsdale	160	1836
Prince Albert	87	1840
Wisbech:		
Sampson	19	1838
Don	18	—
Forager	22	1838
Yarmouth:		
Allan Craig	171	1836
Albatross	178	1836
Accommodation	47	1837
Dolphin	25	1838
Tiefler	22	1838
Industry	18	1836
Susannah	14	1838
Alert	22	1837
Emperor	22	1838

Steam vessels belonging to or registered at ports in Great Britain in 1845.
Data extracted from the return to Parliament detailed in PP 1845, XLVII.

Name	Tons	Year
Aberdeen:		
City of London	722	1844
City of Aberdeen	622	1825
Duchess of Sutherland	462	1835
Duke of Wellington	326	1829
Duke of Richmond	320	1838
Sovereign	278	1826
North Star	204	1837
Bonnie Dundee	200	—
Velocity	174	1821
Harlequin	81	1837
Paul Jones	20	1837
Sea Horse	34	1838
Dorothy	29	1839
Samson	17	1840
Alloa:		
Albert	93	1840
Victoria	85	1834
Morning Star	80	1815
Campbeltown:		
Maid of Islay	91	1824
Saint Kenara	120	1835
Duke of Cornwall	105	1842
Dumfries:		
Mithedale	160	1830
Countess of Galloway.	146	—
Dundee:		
Dundee	600	1821
Perth	200	—
London	406	1827
Modern Athens	119	1838
Tay	120	1835
Lass o' Gowrie	74	1841
Tayfield	61	1836
Sir William Wallace.	52	1839
Glasgow:		
Sultan	90	1838
Waverley	45	—
Alert	44	1833
Favourite	40	1824
James Ewing	35	1835
Trusty	30	1814
Hercules	44	1823
Industry	30	1824
Samson	26	1829
Gulliver	57	1826
James Watt	44	1825
Queen of Scots	60	1825
British Queen	82	—
Ayrshire Lassie	64	1830
Sultan	51	—
Unicorn	300	1825
Britannia	620	1840
Acadia	612	—
Caledonia	616	—
Conqueror	86	—
Princess Royal	420	1841
Defiance	90	—
Lady Brisbane	62	1842
Duncon Castle	100	1826
Arran Castle	71	1830
Rothesay Castle	95	1837
Inveraray Castle	120	1830
Dunbreen Castle	120	1842
Hibernia	721	—

Glasgow—continued.		
Royal Tar	70	1826
Clarendon	45	1826
Lady Kellburne	35	1845
Commodore	207	1825
Admiral	585	1840
Tartar	218	1836
Shandon	108	1830
Toward Castle	97	1832
Staffa	57	—
Queen of Beauty	80	1844
Achilles	557	1839
Fire King	200	1838
Aurora	200	1839
Antelope	100	1835
Inverness	40	1838
Foyle	152	1838
Helen M'Gregor	88	1836
Rob Roy	40	1824
Arab	150	1836
Gloucester	101	1838
Dolphin	120	1844
Engineer	40	1842
Royal Consort	207	1844
Craigmish Castle	97	—
Cardiff Castle	97	—
Edinburgh Castle	62	—
Albion	107	—
Lass	64	1827
Maid of Galloway	127	1838
Cambria	700	1844
Invincible	70	—
Margaret	270	1825
Grangemouth:		
Harmony	18	1838
Samson	22	1840
Greenock:		
Firnlaggan	98	1840
Royal Victoria	93	1840
Isle of Bute	94	1835
Dunloutk	30	1832
Maid of Bute	32	1836
Inverness:		
Ant	18	1840
Maid of Morven	30	1838
Irvine:		
Isle of Arran	86	1836
Kinkaldy:		
Edinburgh Castle	84	1821
Thane of Fife	62	—
Queen	91	1840
Stirling Castle	57	1826

Leith:		
Royal Adelaide	226	1838
Dumbarton	45	1830
Benledi	102	1827
St. George	62	1830
Royal William	226	1831
Sherry Vere	45	1830
Royal Victoria	426	1835
Turret	6	—
Water Witch	12	1840
Victoria	15	1831
Hero	26	1840
Mantello	200	—
Glenalbyn	120	1834
Queen	25	1840
Montrose:		
Tarbert Castle	101	1836
Maid of Leven	76	1839
Perth:		
Monarch	19	1836
Port Glasgow		
Hero	62	1839
Dumbarton Castle	82	1840
Prince Albert	73	—
Vale of Leven	69	1838

The return for 1845 also listed a further 79 steam vessels, totalling 17,758 tons, operating from ports in Ireland.

Steam vessels belonging to or registered at ports in Great Britain in 1851.
Data extracted from the return to Parliament detailed in PP 1851, LII.

1851 Page 1

Name	Tons	Year
Port of London		
Malvina	39	1836
Enterprize	318	—
Mercury	108	1830
Revolution	7	1833
John and Richard	18	—
Jardine	58	1835
Greenwich	96	—
Beaver	109	—
Vestal	173	—
Dolphin	105	—
Comet	158	—
City of Canterbury	155	1836
Red Rover	148	—
Gem	103	—
City of Hamburg	333	—
John Bull	345	—
Harlequin	185	—
Tourist	112	—
Caledonia	433	—
Ramona	178	—
Attwood	189	—
City of London	104	—
Manai	186	—
Belfast	110	—
Giraffe	232	—
Dart	145	—
Margaret	166	—
Clarence	426	—
Ionia	105	—
Atalanta	390	—
Countess of Lonsdale	398	—
Fame	172	1837
Earl of Liverpool	145	—
James Watt	291	—
Ariel	53	1838
Wear	33	—
Thames	24	—
Minerva	29	—
Eagle	57	—
Falcon	66	—
Rainbow	263	—
Kilkenny	377	1839
Water Hen	12	—
Leith	568	—
Thistle	23	—
Vesper	27	—
Ocean	276	—
Vesper	160	—
Daylight	30	—
Starlight	30	—
Twilight	30	—
Moonlight	30	—
Bridegroom	35	—
Bride	34	—
Bridesmaid	27	—
Victory	28	1844
Robert Burns	41	—
Senior Johnny	37	—
Caledonia	42	—
Tam O'Shanter	40	—
Sir William Wallace	47	—
Prince Albert	140	—
Matrimony	37	—
Braganza	571	—
Bachelor	38	—
Tay	1,141	—
New Unity	35	—
Tourist	1,129	—
Waterman, No. 1	53	1845
Waterman, No. 2	40	—
Waterman, No. 3	47	—
Waterman, No. 4	47	—
Waterman, No. 5	37	—
Waterman, No. 6	40	—
Waterman, No. 8	33	—
Waterman, No. 9	48	—
Waterman, No. 10	41	—
Waterman, No. 11	54	—
Waterman, No. 12	64	—
Reindeer	330	—
Mercury	170	—
St. Michael	10	—
Tom Bowline	55	—
Medway	53	—
Achilles	387	—
Madrid	315	—
William Jolliffe	197	—
Cashmere	160	—
India	501	—
Samson	31	—
Prince Ernest	146	—
Queen of the Belgians	109	—
Queen of the French	118	—
Princess Mary	129	—
Princess Maud	151	—
Triton	204	—
Lee	188	—
Herne	157	1846
Lass o' Gowrie	23	—
Meteor	114	—
Rodney	12	—
Waterwitch	276	—
Mary Jane	126	—
Father Thames	98	—
Montrose	284	—
Ramsgate Packet	53	—
Trinity	36	—
Joseph Somes	40	—
Erin	533	—
Inisfail	169	—
Emanuel	26	—
Lady Seale	184	—
Haddington	1,167	—
Punch	53	—
Laurel	11	—
Cardinal Wolsey	43	1848
Locomotive	43	—
Malta	777	—
Lord Warden	43	—
Canton	218	—
City of Glasgow	271	—
Scotia	362	—
Cambria	228	—
Anglia	254	—
Wilberforce	344	—
Albion	237	—
Earl of Auckland	201	—
Hibernia	369	—
Fly	54	—
Alfred	20	—
London Merchant	306	—
Black Eagle	57	—
Bombay	817	1849
Soho	243	—
Penny	101	—
Powerful	29	—
Hercules	104	—
Canton	139	—
Nautilus	194	—
Hong Kong	181	—
Waterman	47	—
Esk	142	—
Great Western	1,154	—
Medway	1,861	—
John Bull	45	—
Diamond	3	—
Eagle	422	—
Paul Jones	25	—
Trust	1,226	—
Enterprize	9	—
Bosphorus	330	—
Levantine	190	—
Perseverance	57	—
Queen of the Thames	85	—
Royal William	210	—
Prince of Wales	139	—
Charon	55	—
City of London	138	—
Lord John Russell	207	—
Hellespont	330	—
Uncle Sam	63	—
Pandora	147	—
Dee	1,061	—
Seine	252	—
Waterman	40	—
Thames	1,255	—
Augusta	85	—
Rhine	378	—
Severn	1,183	—
Propontis	363	—
Ripon	1,309	—
Pottinger	880	—
Indus	1,167	—
Dolphin	18	1850
Red Rover	28	—
Atalanta	41	—
Wizard	63	—

Steam vessels belonging to or registered at ports in Great Britain in 1851.
Data extracted from the return to Parliament detailed in PP 1851, LII.

1851 Page 2

Name	Tons	Year
Bristol:		
Panther	22	1847
Dart	93	1849
Star	149	—
Fairy Queen	79	1850
Propeller	28	—
Carnarvon:		
Vesta	88	1848
Cardiff:		
Superb	23	1841
Dragon	39	1846
Cardiff Castle	22	1847
William	26	1848
Prospect	23	1850
Christian Sinclair	24	—
Queen	22	—
Talisman	85	—
Carlisle:		
Newcastle	231	1834
Royal Victoria	316	1837
Alice	10	1847
Cumberland	347	—
Chepstow:		
Beaufort	53	1832
Worcester	17	1839
Chester:		
Alexander	40	1836
Vale of Clwyd	89	1838
Bembell	112	1840
Cymro	36	1848
Dairymaid	43	1850
Clay:		
Economy	18	1848
Dartmouth:		
Violante	19	1847
Dover:		
Duke of Wellington	55	1830
Britannia	52	1848
Deuro	54	1850
Falmouth:		
Sydney	14	1848
Faversham:		
Venus	9	1844
Fleetwood:		
Fenella	179	1850
Royal Consort	303	—
Princess Alice	257	—
Gainsborough:		
Columbine	56	1843
Atlas	49	—
Gloucester:		
Henry Southam	91	1845
Clara	34	1846
City of Worcester	66	1850
Goole:		
City of York	65	1838
Fletcher's Dispatch	16	1840
Railway	74	1842
Eagle	86	1845
Judith	11	1849
Jupiter	69	—
Tonnel Castle	97	1850
Orion	133	—
Grimsby:		
Rendal	94	1847
Hartlepool:		
Dragon	19	1845
Powerful	20	—
Industry	10	1848
West Dock	22	1849
Hull:		
Elbon	61	1828
Albion	42	—
Pelham	60	—
Lord Nelson	92	1831
Pelham	81	1838
Iris	62	1838
Liverpool:		
Sarah Sands	231	1846
New Granada	429	1847
Express	160	—
Liver	90	—
Slieveyore	57	—
Plumbean	81	—
Edinburgh Castle	104	—
Edward	27	—
Bridgwater	37	—
Britannia	81	—
Lucifer	27	1848
Ayrshire Lassie	84	—
Sea Gull	323	—
Engineer	69	—
Iron Prince	95	—
Fanny	73	—
Colchester	35	—
Clarence	60	—
Prince of Wales	55	1849
Queen	52	—
Snowdon	94	—
Dolphin	67	—
Powerful	32	—
Albion	86	—
Walker	49	—
Queen	91	—
Egremont	69	—
Sylph	70	—
Bolivia	509	—
Wallasey	49	1850
Fairy	75	—
Duke of Sussex	31	—
Queen	126	—
Wirrall	111	—
Cornaii	210	—
Star	54	—
Independence	110	—
Prince Albert	24	—
Royal Tar	72	—
Dumbarton Castle	83	—
Victory	41	—
Rattler	209	—
Zephyr	104	—
Nile	348	—
Reeves	38	—
Hercules	37	—
City of Glasgow	1,067	—
Thomas Wilson	49	—
Dumbarton Youth	187	—
Liverpool:		
Harriet	26	1841
Samson	30	1847
Atlas	6	1850
Ipswich:		
Orwell	94	1839
River Queen	43	—
Caledonia	23	1846
Endeavour	17	1848
Lancaster:		
Duchess of Lancaster	134	1839
Lily of Preston	42	—
Lynn:		
Lioness	13	1842
Yorkshireman	194	1844
Dolphin	13	1847
Maryport:		
Rambler	15	1846
Milford:		
Pearl	80	1849
Cambria	48	—
Newcastle:		
Ann and Jane	27	1825
Gateshead	15	1826
Majestic	21	—
Duke of Wellington	23	—
Ann	15	1838
Swan	10	—
Friendship	20	1829
Two Brothers	17	—
Elizabeth	21	1831
Barden	2	1847
Roberts Jane	13	—
Tartar	32	—
Samson	19	—
Neptune	14	—
Turret	8	—
Rannockburn	14	—
James and Emma	9	—
Welcome	14	—
Margaret	13	—
Great Contest	28	—
Harmony	14	—
Jubilee	13	—
Undaunted	18	—
Advance	15	—
Star	15	—
Rob Roy	15	—
Tiger	13	1848
War Eagle	16	—
Gleaner	21	—
Ayrshire	15	—
Economy	17	—
Wanderer	16	—
Bolton	19	—
Wonder	24	—
Elswick	14	—
Industry	19	—
Alligator	98	—
Trinden Grange	19	—
Samson	72	—
Express	16	—
Olive	21	—
Chevy Chase	285	1849
Jabez Bunting	19	—
Dart	19	—
Talbot	17	—
Thomas and Isabella	17	—
Sceptre	16	—
George and Jane	14	—
Ann and Margaret	20	1850
Neptune	174	—
Vesper	14	—
Vesta	161	—
Ivanhoe	209	—
Martello	19	—
Ferrestar	20	—
Earl Percy	305	1849
Newport:		
Lady Rodney	58	1825
Eclipse	31	1835
Eclipse	53	1849
Plymouth:		
Brunswick	172	1839
Alert	16	1840
Alert	24	1845
Queen	29	1846
Sir Francis Drake	94	1848
Poole:		
Purbeck	22	1850
Portsmouth:		
Lord Yarborough	54	1835
Earl Spencer	43	1846
Union	31	—
Prince Albert	46	1847
Prince of Wales	57	1850
Princess Royal	57	—
Her Majesty	66	—
Preston:		
Cupid	19	1840
Tobermory	47	—
Prince of Wales	313	1843
Experiment	19	—
Nile	67	1847
Jane Dennistown	76	—

Steam vessels belonging to or registered at ports in Great Britain in 1851.
Data extracted from the return to Parliament detailed in PP 1851, LII.

Name	Tons	Year
Southampton:		
South Western	139	1847
Transit	160	–
Atalanta	171	–
Grand Turk	344	–
Ariadne	117	–
Express	152	–
Robert Burns	185	–
Courier	196	1841
Queen	56	–
Success	3	1849
Dimsatch	197	1850
Stockton:		
John and Ann	16	1838
British Dominions	23	1839
United Kingdom	19	1840
British Queen	39	–
Harvest Home	15	1843
Vigilant	18	–
Britain	13	1844
Britannia	13	1845
Bee	16	–
Sampson	22	1846
Champion	23	–
Conquest	19	–
Rising Sun	21	1847
Alert	18	–
Royal Victoria	23	–
Gleaner	27	–
Chieftain	17	–
Jenny Lind	37	1848
Mary Agnes	27	–
Contractor	31	1849
Reaper	13	–
Ocean Bridge	17	–
Royal Sovereign	10	–
Reaper	22	1850
Mercury	32	–
Commodore	29	–
Sunderland:		
Neptune	41	1826
Triumph	16	1839
Content	18	1841
Savanna	9	–
William and John	24	1842
Ranger	29	–
Pride in the North	7	1844
Whitwell	16	–
Alfie	37	1847
Collingwood	11	1846
Gaiety	18	1847
Lady Adelaide	15	–
Earl of Sunderland	17	–
Invincible	17	–
Jack Tar	7	–
Conqueror	13	1848
Firebrand	18	–
Rapid	17	–
Belmont	21	–
Haswell	23	–
Wansbeck	13	–
Pilot	16	–
Atlas	24	–
Pilot	14	–
Haswell	21	–
Sea Horse	26	1849
Oliver	28	–
Pilot	17	–
Pup o' Day Boy	13	–
Walcher	16	–
Lord Durham	20	1850
Robert and Mary	14	–
Swansea:		
Bristol	76	1838
King of Oude	19	1839
Dragon-Fly	15	1840
Prince of Wales	106	1842
Pioneer	19	1843
Lord Bevenford	22	–
Chieftain	20	1844
Neath Abbey	67	1846
Talbot	99	1847
Cobre	28	1849
Firefly	81	–
Tartar	46	1850
Dundee:		
London	406	1837
Tayfield	61	–
Sir William Wallace	23	1840
Lass o' Gowrie	74	1841
Dundee	379	1845
Perth	379	–
Royal Victoria	88	1847
Mars	62	1848
Neptune	62	–
Hercules	36	1849
Glasgow:		
Alert	44	1837
Favourite	41	–
James Ewing	75	–
Queen of Scots	69	1839
British Queen	81	–
Defiance	80	1842
Margaret	370	1842
Champion	46	1843
Commodore	387	1844
Admiral	598	–
Tartar	218	–
Shandon	103	–
Staffa	87	–
Inverness	43	–
Glowworm	161	–
Dolphin	122	–
Countess of Eglinton	69	–
Albion	157	–
Culloden	75	1845
Firefly	238	–
Emperor	62	–
Sovereign	76	–
Dunrobin Castle	120	1846
Edinburgh Castle	68	–
Craigmish Castle	97	–
Cardiff Castle	97	–
Dunstaffnage Castle	120	–
Inverary Castle	120	–
Rothesay Castle	95	–
Dunoon Castle	100	–
Thetis	199	–
Scotia	81	–
Lady Brisbane	82	–
Invincible	78	–
Lady Kelburne	85	–
Mars	79	–
Powerful	46	–
Pilot	70	1847
Pioneer	105	–
Petrel	100	–
Belvellyn	87	–
Cambria	760	–
Prince	58	–
Brixon	152	–
Sylphide	122	–
Kirkwall:		
Northman	139	1847
Leith:		
Dumbarton	45	1837
Victoria	15	1842
Hero	26	–
Martello	293	1843
Glenalbyn	190	–
Lion	10	1845
Phares	207	1846
Success	12	–
Britannia	207	1847
Tiger	14	–
Monarch	13	–
Brilliant	229	1848
Transit	14	–
Mercator	299	–
Royal Victoria	466	1850
Royal William	335	–
Royal Adelaide	325	–
Saint Kiaran	129	–
Border Queen	109	–
Courier	245	–
Leviathan	302	–
Robert Napier	144	–
Balmoral	172	–
Montrose:		
Maid of Leven	76	1844
Regalia	71	1849
Perth:		
Monarch	19	1838
Port Glasgow:		
Vale of Leven	69	1840
Premier	80	1847
Dunbank	39	–
Loch Lomond	68	–
Marchioness of Breadalbane	81	–
Queen	91	1850
Stornoway:		
Marquis of Stafford	215	1849
Wigtown:		
Countess of Galloway	316	1847

The return for 1851 also listed *59* steam vessels, totalling 12,845 tons, operating from ports in Ireland.

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Illustrations:

A note on the limited evidential value of early representations of steamboats

No photographs of any paddle steamers operating up to 1850, which is the end of the period covered by this study, exist in any form. Although the fundamentals of the photographic process had been discovered in or before the 1840s, and early photographs (mostly portraits) were being taken shortly before 1850, photography of the kind necessary to record visual images of such things as steamboats was not in use until after 1850. For an answer to the question 'what did Henry Bell's innovative *Comet* (and other steamboats of the early nineteenth century) look like?' there are only two sources of visual information available: technical drawings such as shipyard or engineering plans, and artists' drawn or painted images of one kind or another. Experience during this study shows that in the latter category, supposedly contemporary representations of early steam vessels can be misleading, and their use has to be treated with caution.

Especially in a few works prepared within a decade or two after the introduction of steam navigation, drawings can be found that are described as showing, for example, the innovative *Comet* in service. Discrepancies revealed by comparing these with shipyard drawings of the hull suggest that the artist was making something of a guess at the steamboat's design, and getting some of it wrong. Does this matter? For contemporary readership, perhaps hardly at all; the pictures will have succeeded in giving the 1820s reader, who probably would have never seen a steamer in real life at all, a fair idea of what one looked like (1). It can be argued, however, that if the same illustration is used as an identifier today, with its implication that 'this is what the *Comet* was like', it is giving significance to a misleading image. This also applies to other early steam vessels; instances have been found where a new illustration in a modern publication repeats an error in a technical feature, obviously carried over from an earlier one drawn before the

age of photography. For this reason, the use of representative images identifying specific vessels (Robert Fulton's *Clermont,* for example) has been avoided as far as possible. But to know what a vessel as important as Henry Bell's *Comet* looked like is clearly of interest; an attempt has therefore been made in Fig. 24, chapter 3, to analyse the vessel's appearance, using information from the shipyard's plans and comparisons with some parts of near-contemporary drawings. The illustration of Symington's *Charlotte Dundas* (Fig. 8.), though frequently reproduced as an authentic representation of the vessel, is accompanied here by a proviso that the technical detail may not be entirely accurate.

For technical illustrations in general, the maximum use has been made of two published sources with a good degree of authenticity; these are the engineering drawings in the comprehensive work on steam engineering by Farey (2), and the plans of steamboats in the treatise on steam navigation by Buchanan (3). In other instances, some engineering drawings submitted with patent applications have been taken as usable representations of engineering designs, particularly in the case of the second engine design by William Symington.

(1). This acceptability as a useful representation in its own era is rather like the indifference to true identification seen in illustrations in some fifteenth-century books, such as the *Nuremberg Chronicle* of 1495, in which the same woodcut apparently appears with different captions as Damascus, Ferrara, Milan and Mantua. As the art historian E. H. Gombrich said of this: '... we must conclude that neither the publisher nor the public minded whether the captions told the truth. All they were expected to do was to bring home to the reader that these names stood for cities'.
E. H. Gombrich (1977), *Art and Illusion,* London, Phaidon Press Ltd, p. 60.

(2). J. Farey (1827), *A Treatise on the Steam Engine,* London, Longman, Rees, Orme, Brown and Green.

(3). R. Buchanan (1816), *A Practical Treatise on Propelling Vessels by Steam,* Glasgow, R. Ackerman.

Illustrations

1. The first Newcomen steam engine, erected in 1712. (Science Museum, London).

2. Principle of operation of the Newcomen engine. (Original artwork, based on J. Farey[1827], *A Treatise on the Steam Engine,* London, Longman, Rees, Orme, Brown and Green, p. 129).

3. Smeaton's improved Newcomen engine of 1772. (Ibid., Plate II).

4. 1780s engine with Watt separate condenser. (Ibid., Plate X).

5. Watt double-acting cylinder, c. 1790. (Ibid., Plate XI with original adaptations).

6. Jonathan Hulls' 1736 tug proposal. (Hulls' Patent No. 556 of 1736, with original artwork setting out a conjectural means of operation).

7. Miller boat on Dalswinton Lake, 1788, and first Symington engine. (W. S. Harvey and G. Downs-Rose [1980], *William Symington,* London, Northgate).

8. Symington's engine design of 1801 (Patent 2544), and his *Charlotte Dundas,* 1803. (B. D. Osborne [2001], *The Ingenious Mr Bell,* Glendaruel, Argyll Publishing, p. 67).

9. Henry Bell's *Comet* design of 1811. (Original artwork adapted from ibid. p.26).

10. Watt engine and bell-crank mechanism, c. 1800. (Farey, op. cit., Plate XVI).

11. Plan of typical early steamboat, c. 1815. (R. Buchanan [1816], *A Practical Treatise on Propelling Vessels by Steam,* Glasgow, J. Hedderwick, Plate V., p. 199).

12. Aquatint, steamboat on Firth of Clyde, c. 1813. (I. Bain [1966], *William Daniell's A Voyage Round Great Britain,* London, The Bodley Head).

13. Table of middle-ranking income change in second half of eighteenth century. (Selected from the surveys of Joseph Massie, 1759, and Patrick Colquhoun [1806], *A Treatise on Indigence,* London, J. Hatchard).

14. Wheat price fluctuations in eighteenth century. (Adapted from D. Hay and N. Rogers [1997], *Eighteenth Century English Society,* Oxford, OPUS Books, p. 227).

15. Eighteenth-century wages in South of England (Adapted from E. Gilboy [1934], *Wages in Eighteenth Century England,* London, Oxford University Press).

16. Doctor Syntax (W. Combe [1822], *Doctor Syntax in Search of the Picturesque,* London, C. Daly, front cover).

17. *Landscape with Tourists at Loch Katrine* by John Knox,c. 1825. (National Galleries of Scotland).

18. *Thames at Twickenham* by Richard Wilson, c. 1760 (Ford Collection, reproduced in W. Orpen [1929], *The Outline of Art,* London, George Newnes, p. 370). *Thames,Twickenham* by G. Shepheard, 1811 (City of London, Municipal Archives).

19. Class distinction, railway travel to Epsom, 1847. (*The Illustrated London News,* 22 May 1847, p. 328).

20. Working mens' wages. (P. H. Lindert, 'Unequal Living Standards' in R. Floud and D, N. McCloskey [1994], *The Economic History of Britain since 1700,* Cambridge, Cambridge University Press, Vol. I, p. 370).

21. Region of Scotland discussed in Chapter 3. (Original sketch map based on *Philips' New Modern Atlas*,1937, p. 31).

22. Location of Helensburgh. (Original sketch map).

23. Henry Bell *Comet* advertisement, 1812. (Osborne, op. cit., p. 19).

24. Henry Bell's *Comet*, 1812. (Adapted from ibid., pp. 23, 26 and 89).

25. Early steamboat landing places in W. Highlands, c.1825. (Compiled from sources including in particular I. McCrorie and J. Montieth [1982]), *Clyde Piers*, Greenock, Inverclyde Libraries, and I. Maclagan [1997], *Piers and Ferries of Bute*, Rothesay, Buteshire Natural History Society.

26. Firth of Clyde and Isle of Bute. (Original sketch map).

27. North Midlands and Yorkshire area. (Original sketch map).

28. Upper Thames, River Yare and Bristol Avon. (Original sketch maps).

29. Advantageous location of Gainsborough. (Original sketch map).

30. Flint route, river Trent. (Adapted from J. L. Gayer, I. Richardson and J. A. Morris [1966], *A Sketch-Map Economic History of Britain*, London, G. Harrap, p. 98).

31. Routes, Gainsborough to Hull. (Original artwork, with road layout based on 1830s series of maps by Thomas Moule).

32. Chart of stagecoach activity 1804-1826. (Original artwork using data from Tax figures in PP 1857-IV, Appendix 24).

33. Yorkshire natural river system. (Adapted from *Philips' New Modern Atlas).*

34. Yorkshire waterway improvements. (Original artwork, adapted from J. Boughey [1998], *Hadfield's British Canals*, Stroud, Sutton Publishing, p.10 and p.72).

35. Waterway links to Selby and Goole. (Ibid.).

36. Advertisement, *Countess of Scarbro'*, 1820. (I. Beckwith [1988], *The Book of Gainsborough*, Buckingham, Barracuda Books, p. 106).

37. *Columbine* steamboat and Trent villages, 1830s. (Ibid., p. 105, with sketch maps added).

38. Advertisement, travel services Knaresborough to Hull, 1835. (Ibid.).

39. Stretches of River Thames discussed in chapter 5. (Original artwork).

40. Thames, river activity, 1750, by Thomas Bowles. Thames Watermen importuning, by Thomas Rowlandson, 1812. (City of London, Metropolitan Archives).

41. George Dodd route, Clyde to London, 1815. (Original sketch map).

42. Steamboat *Thames* on lee shore, 1815. (G.Dodd [1818], *An Historical and Explanatory Dissertation on Steam-Engines and Steam-Vessels*, London, Asperne, Richardson, Ackerman and Hailes, frontispiece of Weld narrative).

43. Old London Bridge. G. Yates, 1828. (City of London, Metropolitan Archives).

44. Landing places on lower Thames in London. (Adapted from John Rocque maps, c. 1750)

45. Watermen's wherry. (Extracted from Canaletto view of Greenwich).

46. Waterman's scull. (From GLC Publication 211, panorama of Thames c. 1750).

47. Thames hoy. (Ibid.).

48. Thames steamboats. William Parrott, 1840. (City of London, Metropolitan Archives).

49. *Cricket* steamboat. (*Illustrated London News*, 4 September 1847, p. 145, Vol. XI).

50. City clerks c. 1850. (G. Sala [1878], *Twice Around the Clock*, London, J. and R. Maxwell).

51. Easter Monday steamer, 1847, Pool of London. (*Illustrated London News*, 3 April 1847, p. 217, Vol. X).

52. Gravesend pier, 1838. (E. J. Brabazon [1863], *A Month at Gravesend*, London, Simpkin and Marshall, p. 155).

53. Thames, Margate Steam Yachts. Robert Havell, 1820. (City of London, Metropolitan Archives).

54. Rosherville, (a) Gardens. Anon, c. 1840. (b) Hotel, engraving by C. Hullmondel, c. 1835, (both City of London, Metropolitan Archives).

55. Johnny Neveright. Excursion to Gravesend. ('SHMC', [1845], *The Adventures of Johnny Neveright*, London, Dalton and Clarke, p. 12).

56. Haymarket Theatre audience, by Charles Cruikshank.

57. English and Welsh coasts discussed in chapter 6. (Original sketch maps).

58. Scarborough from the sea. (J. Cole [1825], *Picture of Scarborough*, London, Longman Hurst, p. 86).

59. Location of Margate. (Original sketch map).

60. Relative locations of Margate and Ramsgate. (Original sketch map).

61. Location of Prittlewell (Southend). (Original sketch map)

62. Southend sea front, c. 1814. (from W. Daniell aquatint, op. cit.).

63. Southend terrace, 1830s. (City of London, Municipal Archives).

64. Southend in 1872.

65. Liverpool to Runcorn. (Original sketch map).

66. Steamboat routes, Liverpool to Eastham and Bagillt. (Original sketch map).

67. Roads from mill towns to Blackpool, c. 1827. (Original sketch map).

68. Location of New Brighton, 1830. (Original sketch maps).

69. Devon coasts. (Original sketch map with Thomas Moule map extract).

70. Locations of Whitby and Scarborough. (Original sketch map).

71. Regions of coastal operations. (Original drawing).

72. Bell's route, Greenock to Fort William, 1819. (Original map from Osborne notes).

73. Irish immigrant routes. (Original sketch map).

74. Route, Liverpool to Glasgow. (Original sketch map).

75. East coast routes. (Original drawing).

76. Bristol Channel. (Original sketch maps).

77. Early railway routes in England, pre 1850. (Original sketch map).

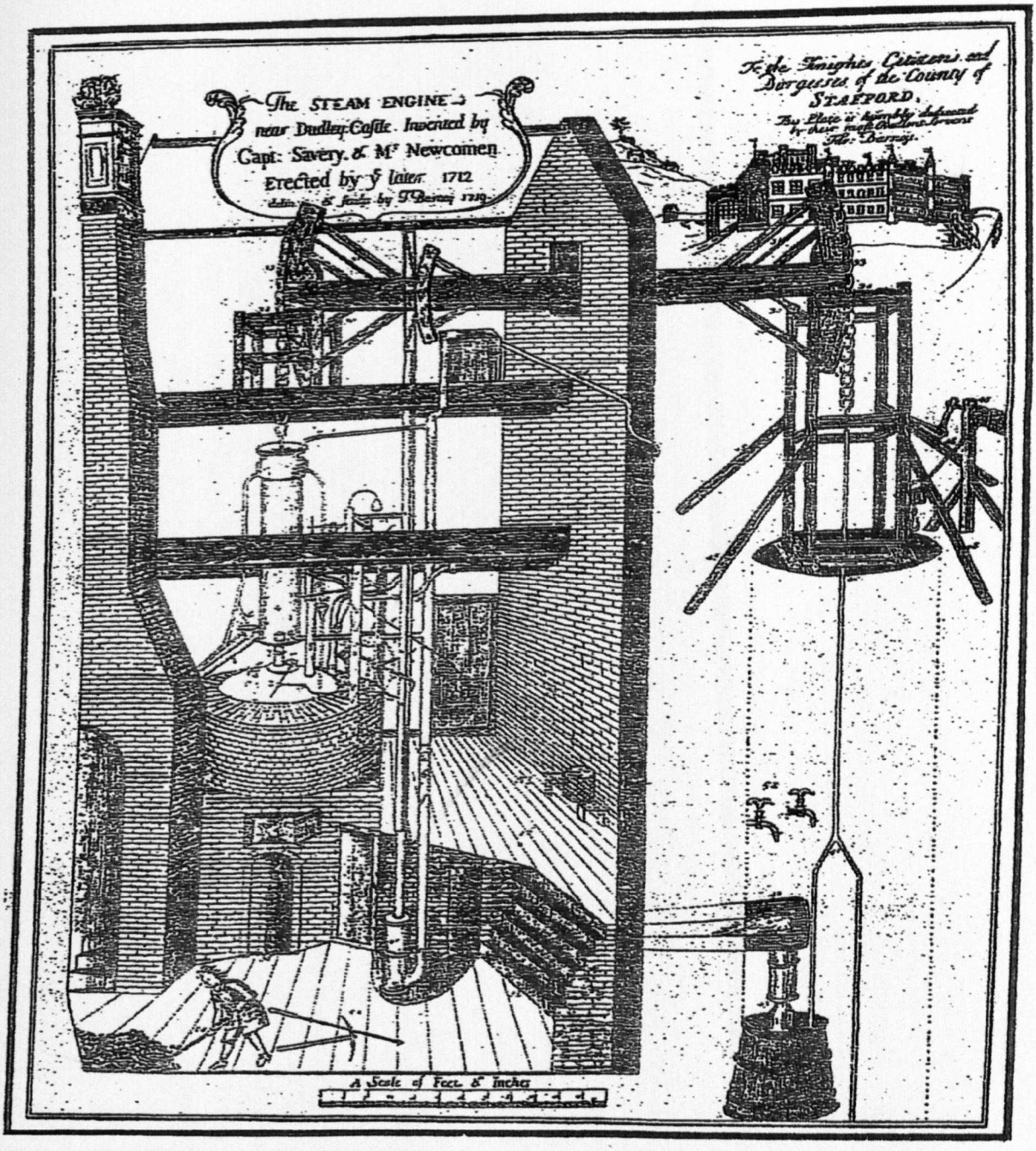


Fig. 1. The first Newcomen engine. This drawing by Thomas Barney in 1719 describes it as being 'Invented by Capt. Savery and Mr Newcomen. Erected by the latter 1712.'

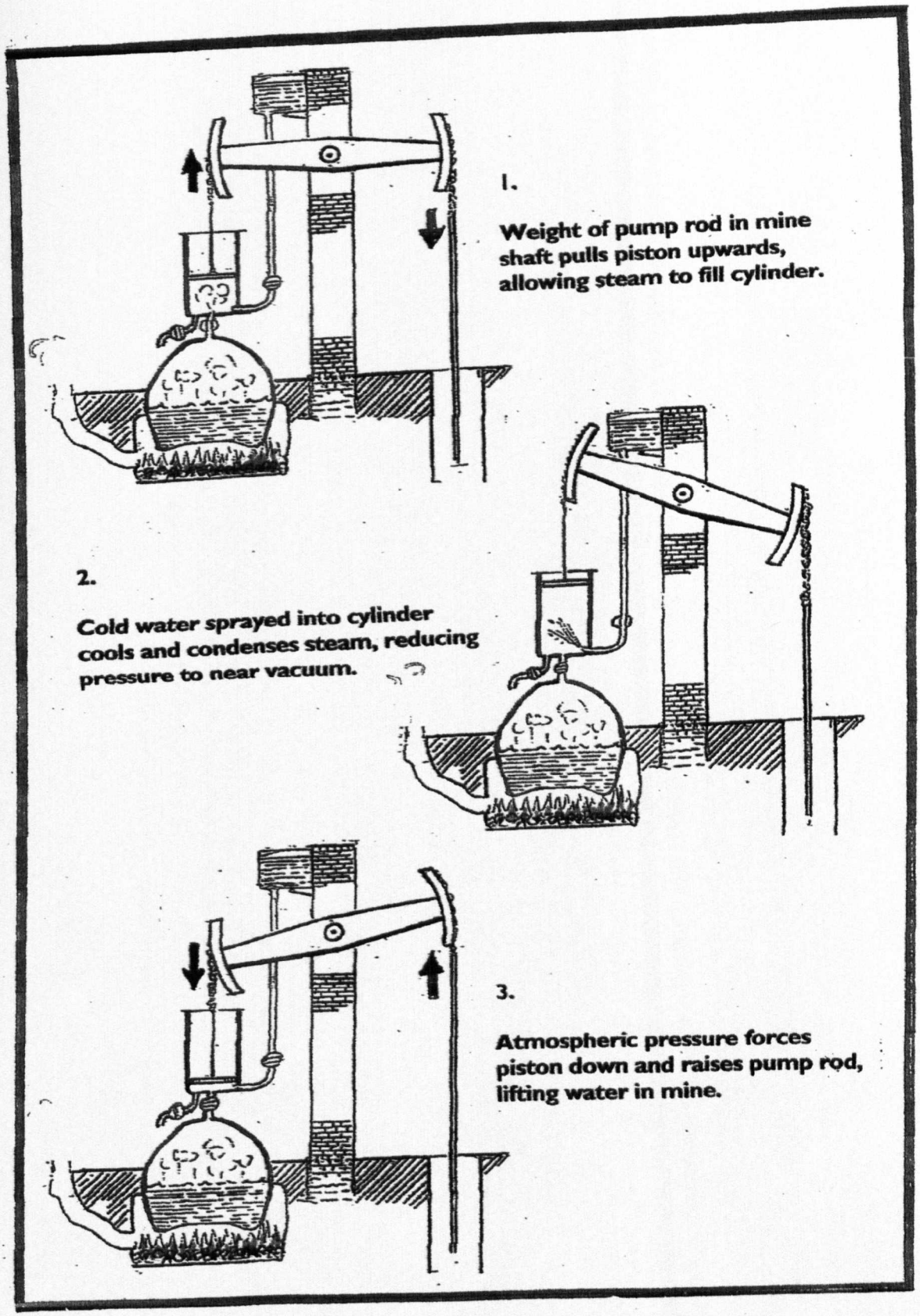


Fig. 2. Simplified working principle of the Newcomen engine.

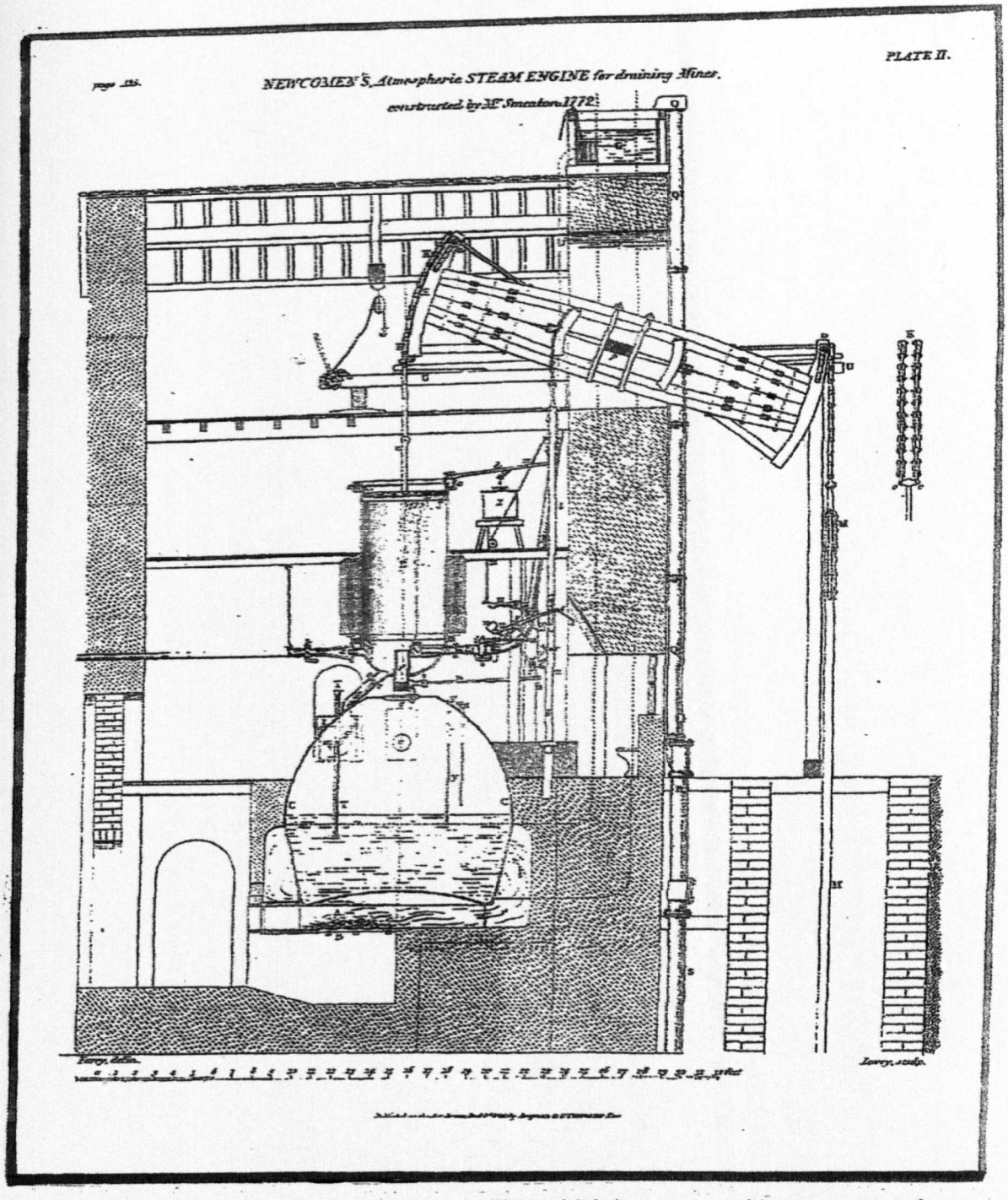


Fig. 3. Smeaton's steam pumping engine of 1772, which incorporated improvements but worked on the same principle as the Newcomen original.

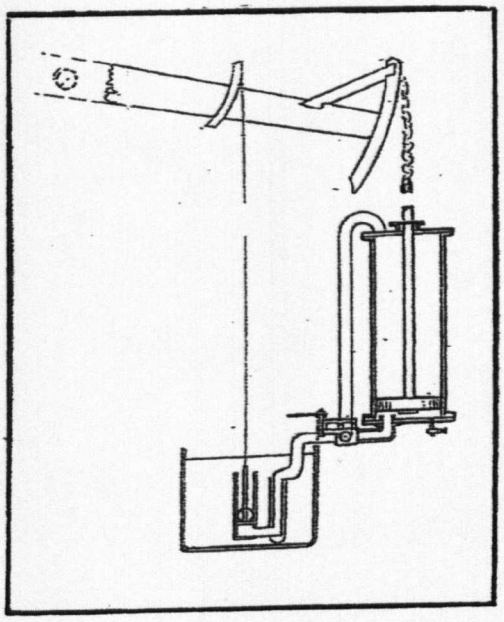
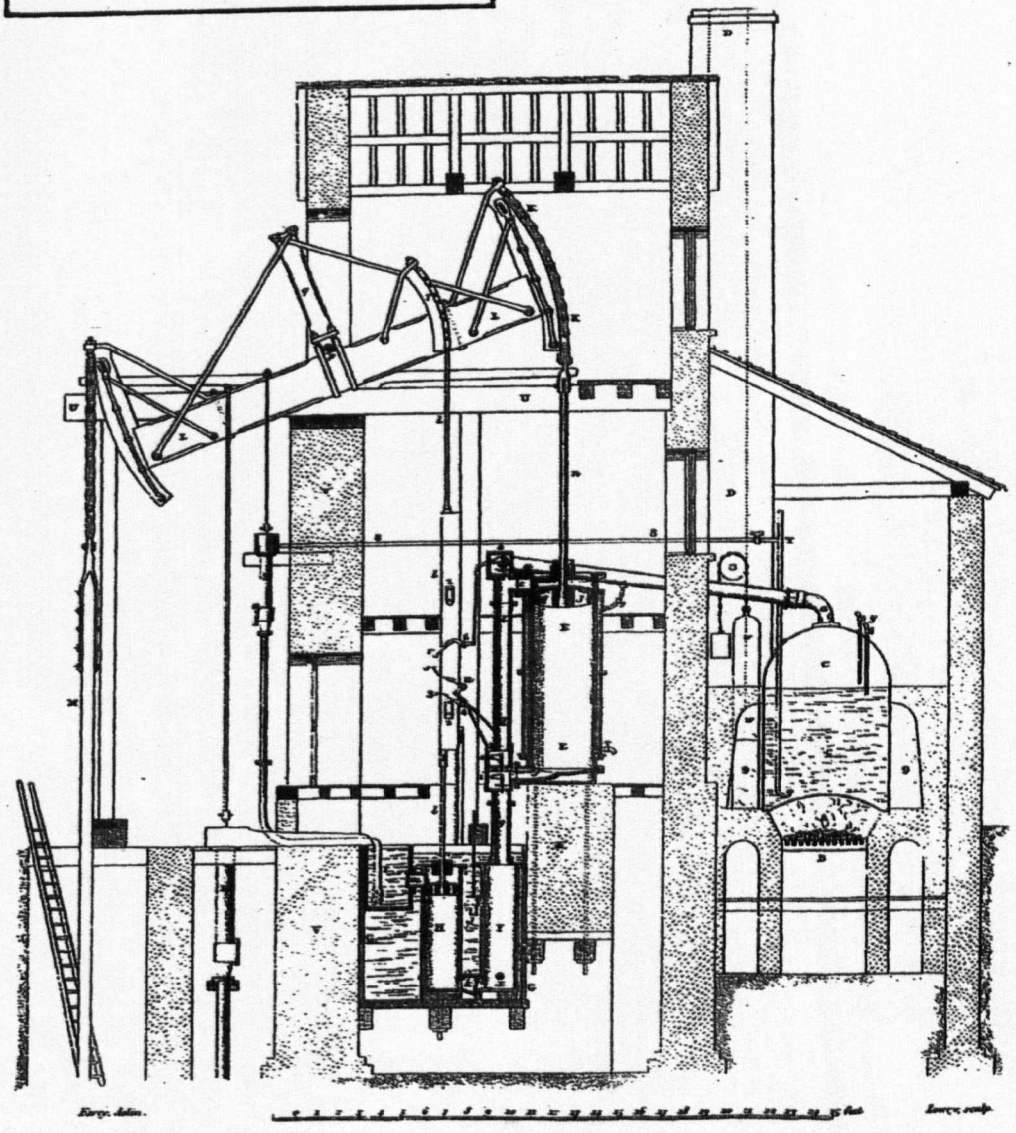


Fig. 4.

Left: Watt's sketch showing the principle of his separate condenser, as submitted with his patent application.

Below: the schematic engineering drawing of a typical 1780s pumping engine incorporating the separate condenser.



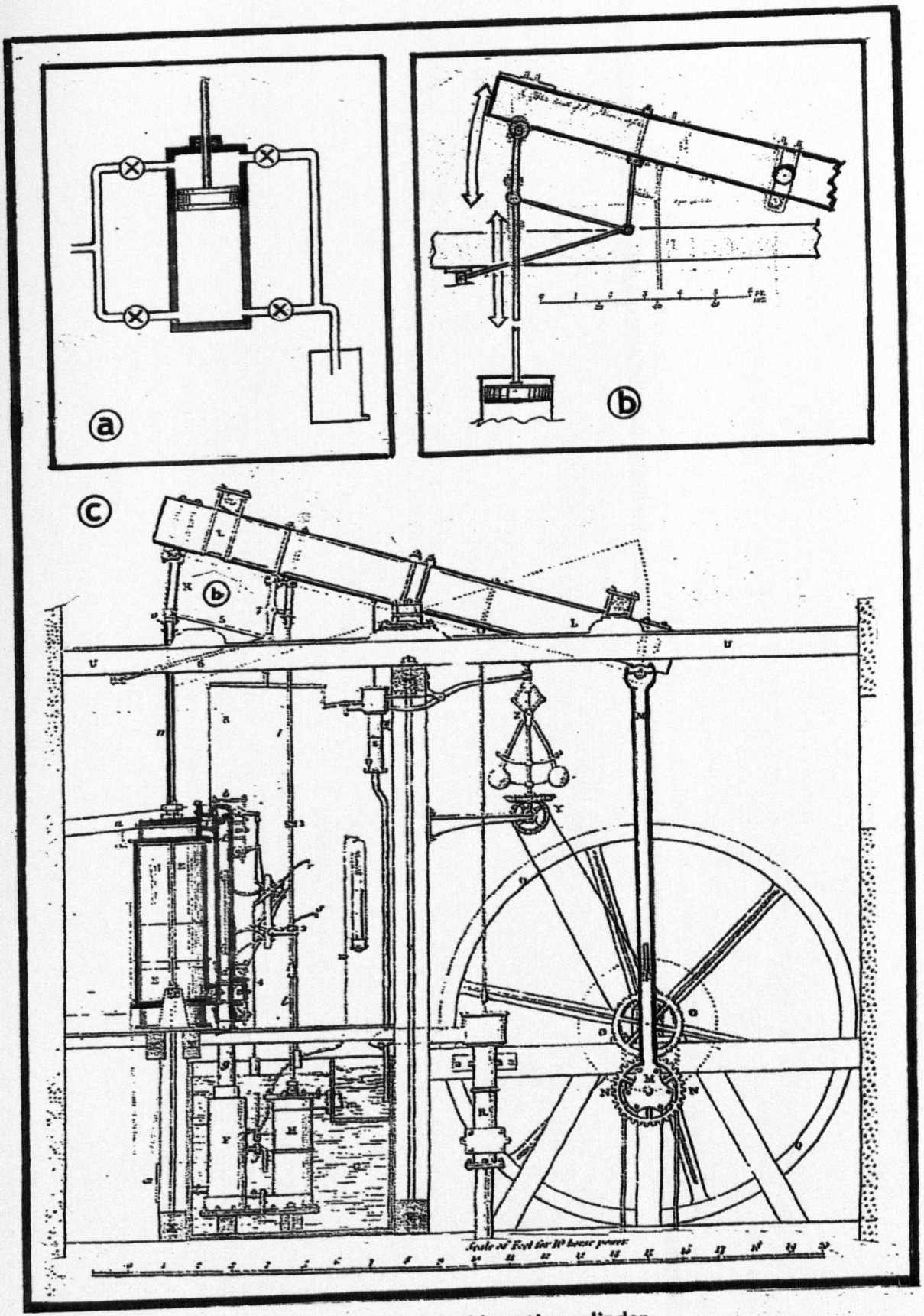


Fig. 5. (a) The working principle of Watt's double-acting cylinder.
(b) The linkage devised by Watt to maintain straight-line motion.
(c) Boulton and Watt double-acting engine with sun-and-planet gear drive.

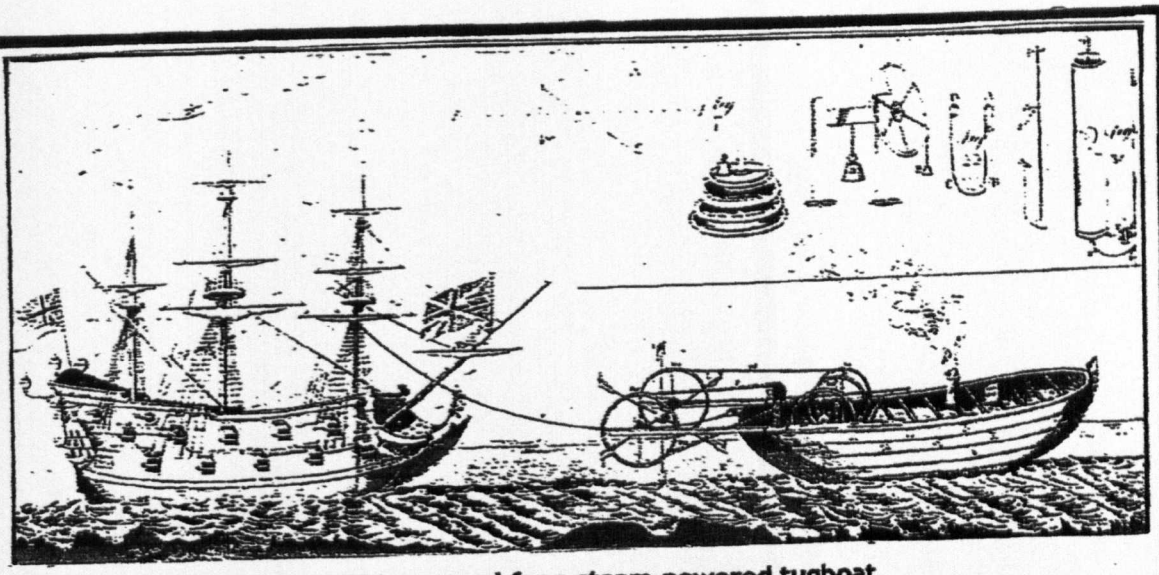
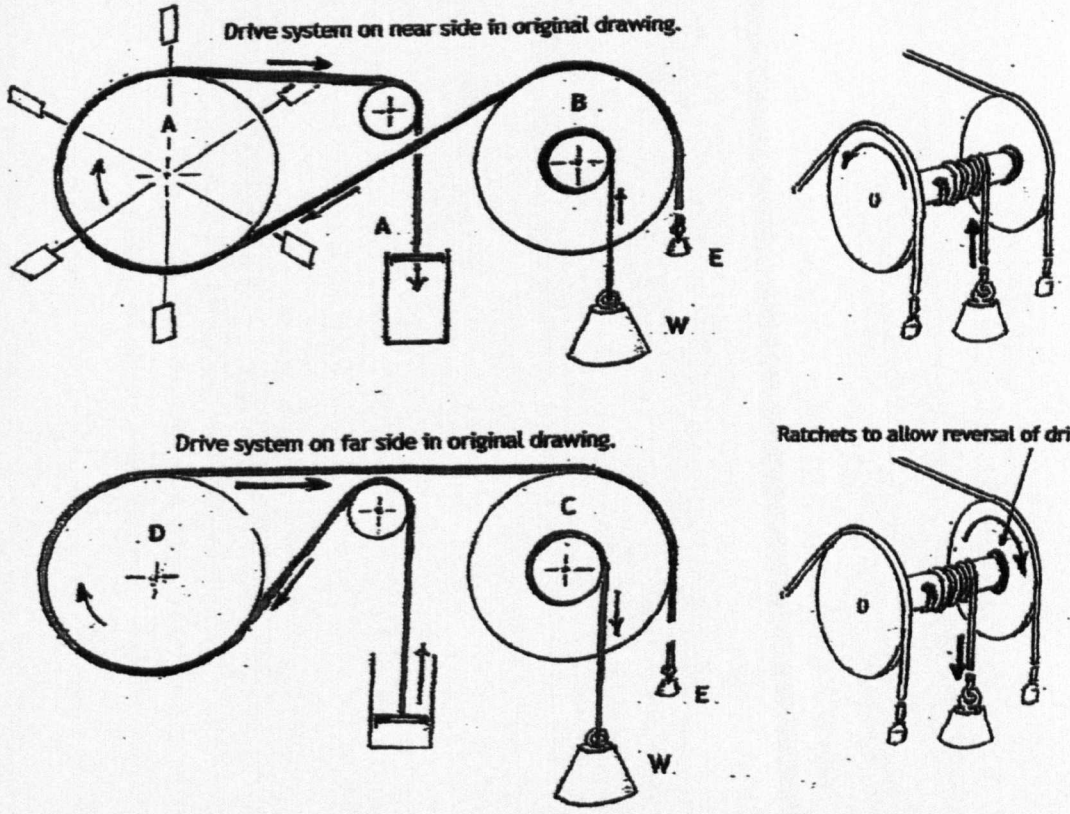


Fig. 6. Jonathan Hulls's 1736 proposal for a steam-powered tugboat.
The above illustration is taken from the drawing forming part of Hulls's patent, No. 556 of 1736. A conjectural analysis of the drive system that appears to have been proposed by Hulls, based on his description, is set out below.



The drive to the paddle wheel is carried by two rope and pulley systems; for clarity these are shown separately. For the first part of the motion, the drive is taken by the nearside (starboard) set of pulleys; as the piston of the Newcomen cylinder is pushed down by atmospheric pressure, it pulls on the rope at (A), turning the paddle wheel, which is fixed between wheels (A) and (D), and at the same time turning wheel (B) and lifting a weight (W). At the end of this stroke, ratchets must have come into play to prevent that system reversing. For the second part of the cycle, the far side (port) rope and set of wheels come into operation: the falling weight now pulls wheel (C) round, and the rope turns the paddle wheel via wheel (D). Details show the rope supporting the weight (W) wound around the shaft joining the two pulley wheels (B) and (C). Subsidiary weights (E) are used presumably to keep the ropes taut. The means used to attach the two systems separately to the piston, or if two cylinders were used, is not clear.

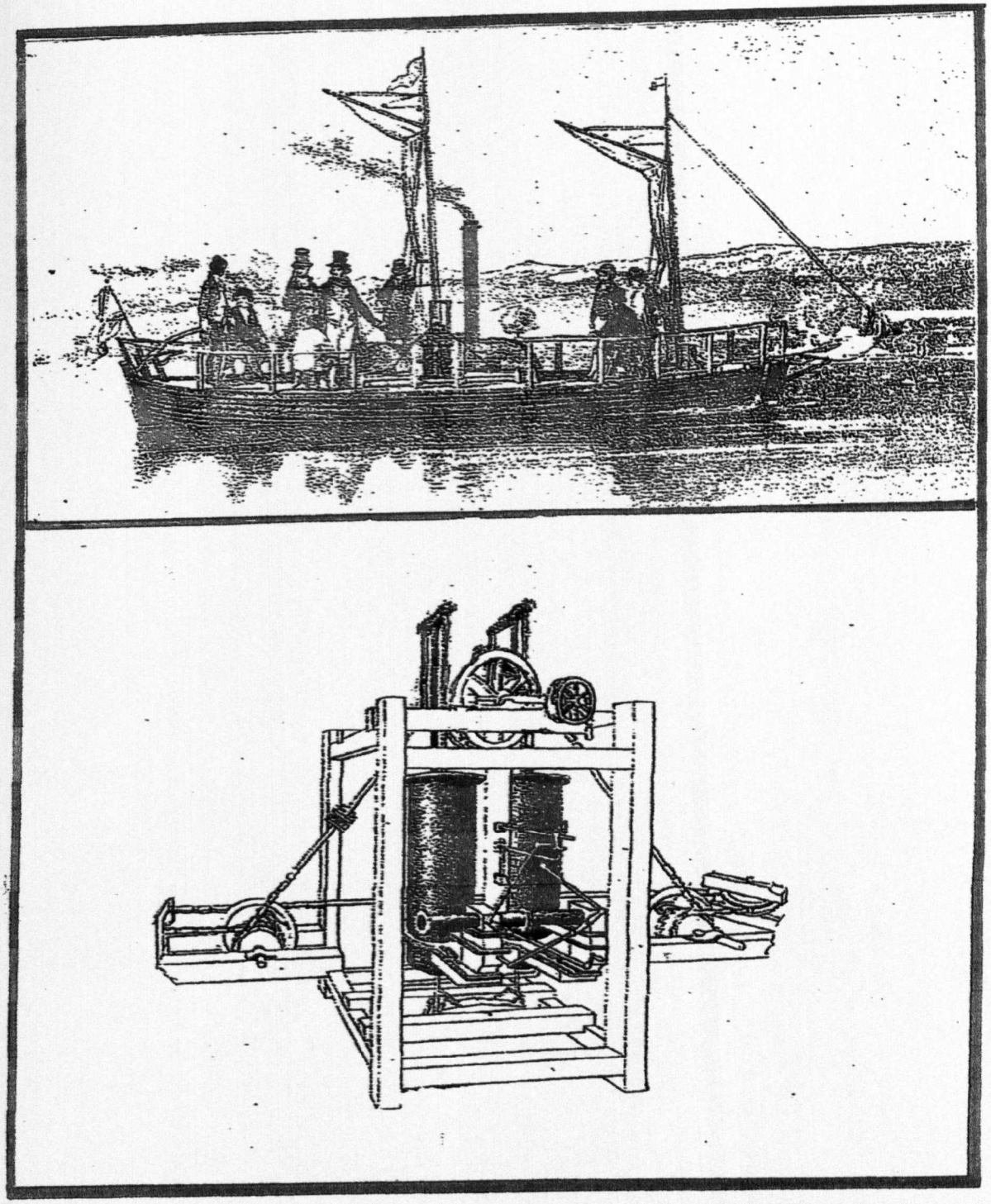


Fig. 7. Top: Patrick Miller's experiments with steam-powered paddle-wheel propulsion.
Above: Symington's engine for Miller's experimental paddle steamer.

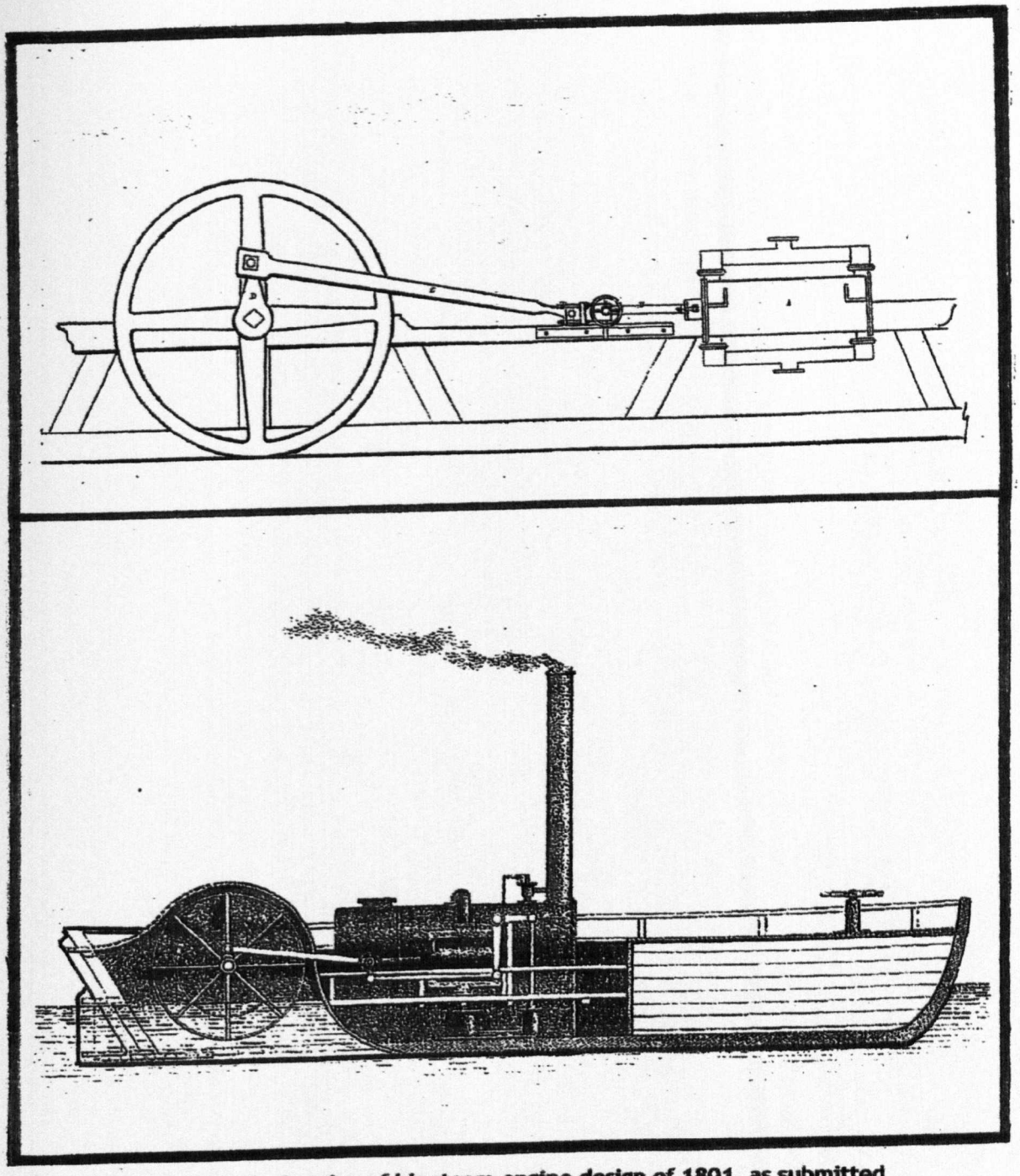


Fig. 8. Top: Symington's drawing of his steam engine design of 1801, as submitted with his patent application.

The cut-away steamboat drawing is one of the most frequently reproduced illustrations of the *Charlotte Dundas*. Other drawings show the same basic stern-wheel layout, but differ in details such as the location of the cylinder and the chimney in relation to the boiler. It is therefore probably safe to say only that this is a fair representation showing how the vessel worked, although it may not be technically accurate in detail.

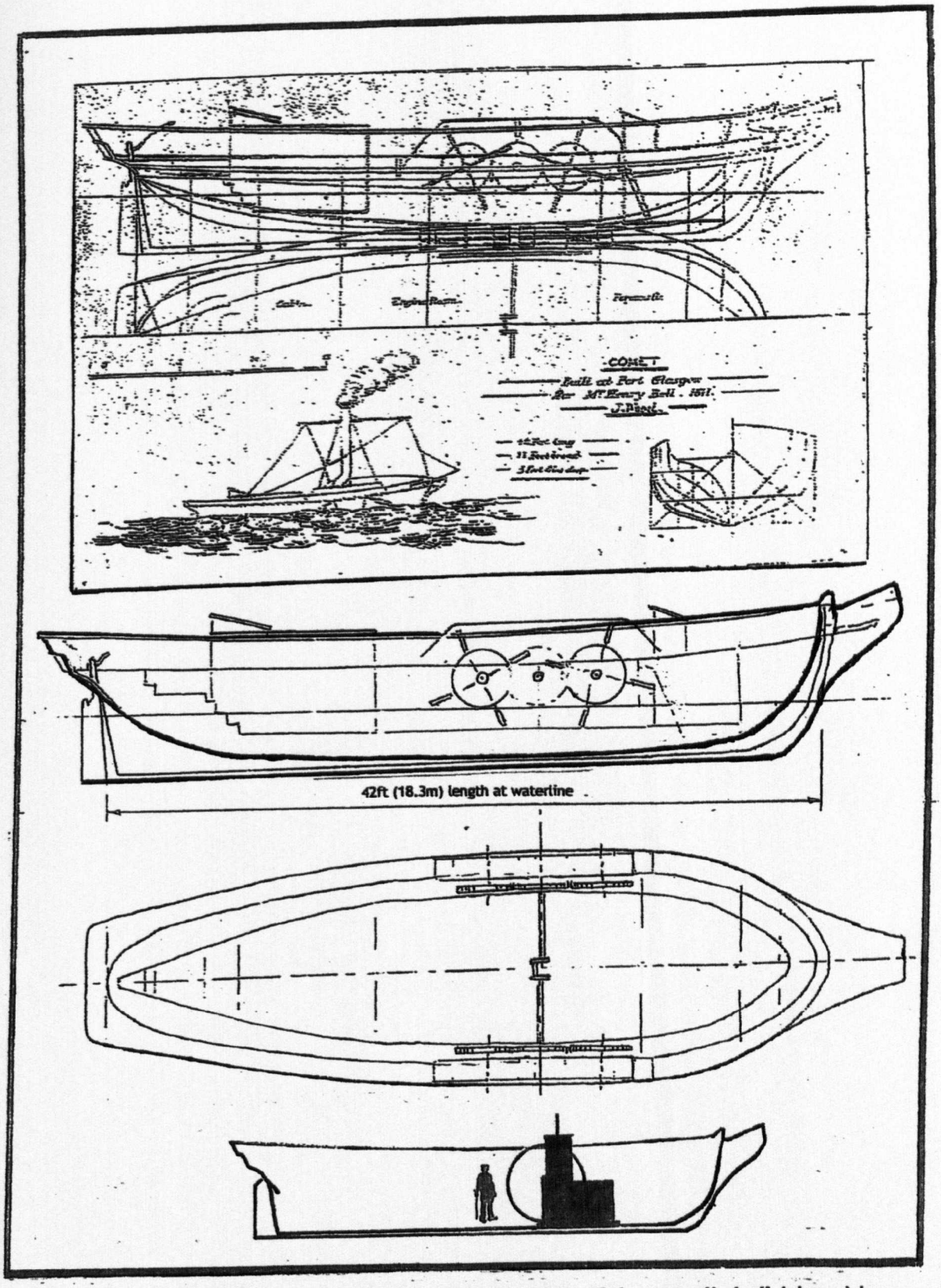


Fig. 9. Henry Bell's *Comet*. The elevation and plan view of the vessel's hull (above) have been extracted from the facsimile of the construction drawing made by the John Wood shipyard (top). Bell first wanted two paddle wheels on each side of the hull, as here, but changed to single wheels for the vessel itself. The outline at the foot shows the size of the Boulton and Watt engine in relation to the size of the vessel.

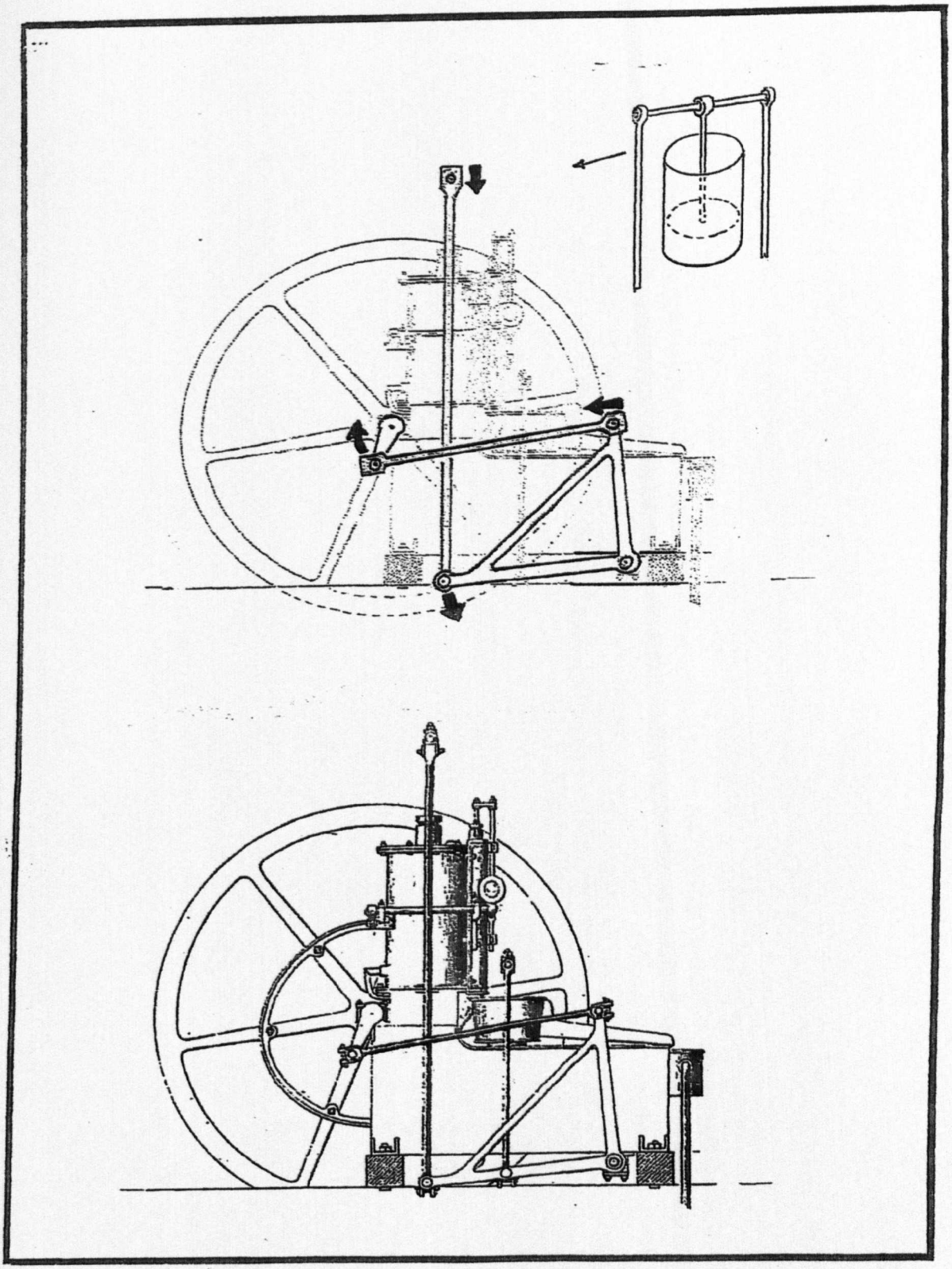


Fig. 10. Top: The working principle of the compact bell-crank linkage devised to reduce engine height in transmitting motion from piston to crankshaft. Above: A typical Boulton and Watt engine, using this principle, similar to that used in Henry Bell's *Comet*.

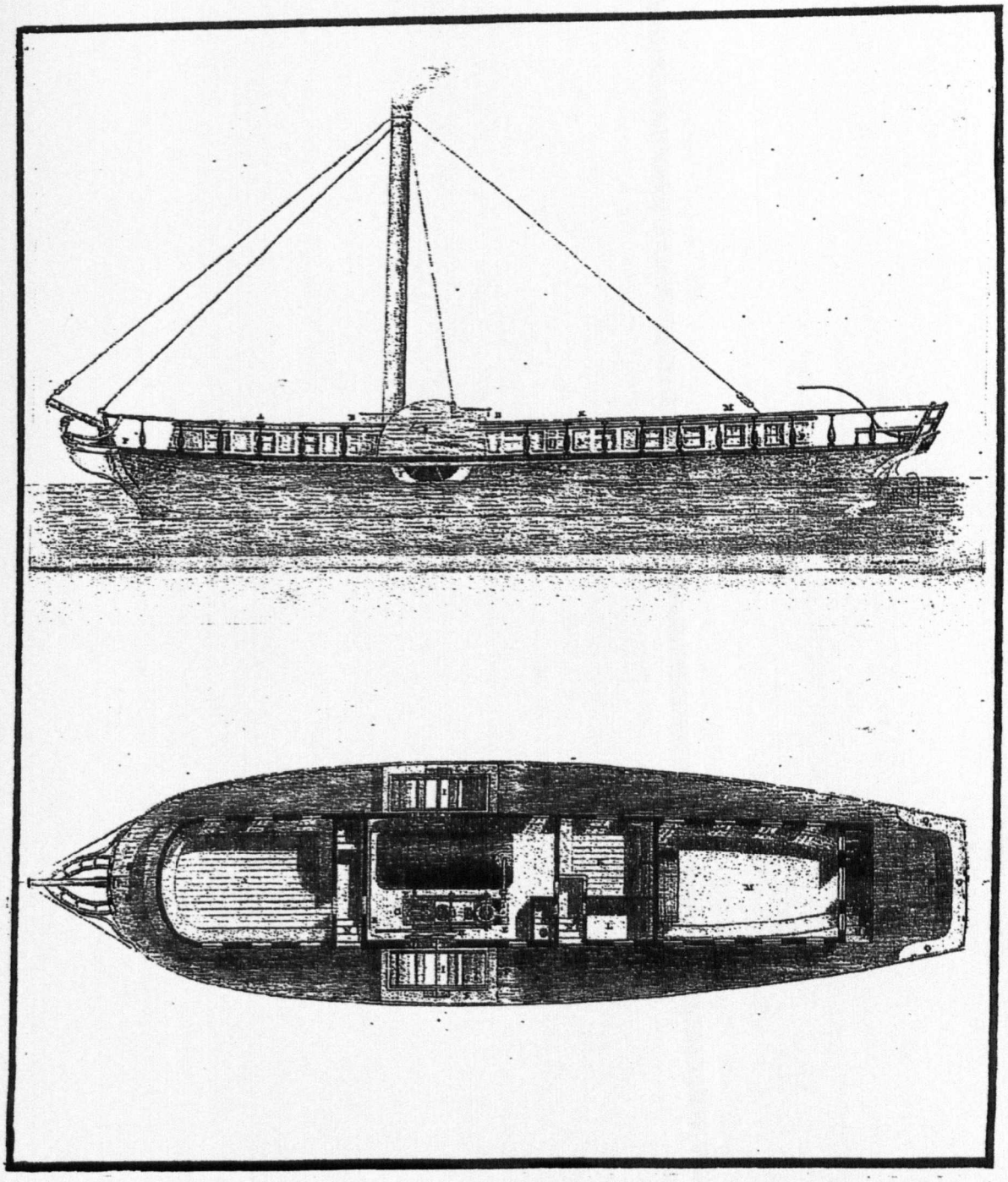


Fig. 11. Layout of the typical passenger-carrying paddle steamer of the decade or two following Henry Bell's lead with the design of the *Comet*. Main parts of the accommodation comprise the principal cabin aft ('M'), the fore cabin 'A', a ladies' cabin 'K', and a steward's room 'L'.

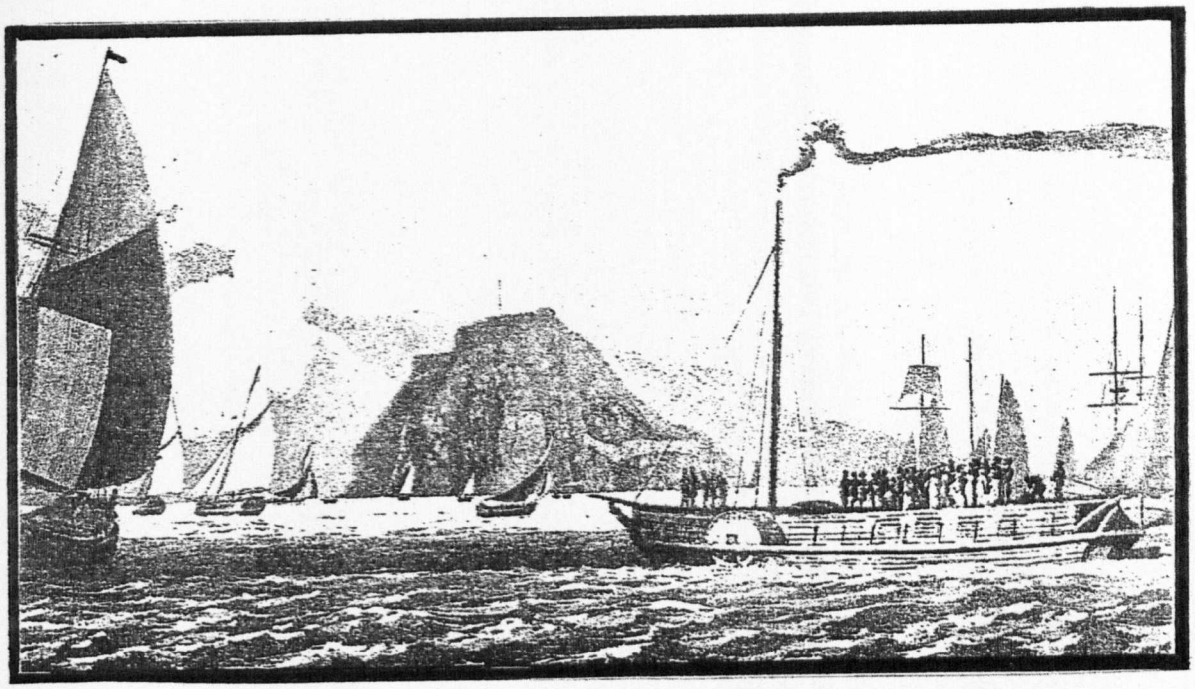


Fig. 12. An early paddle steamer in the Firth of Clyde, one of a series of aquatints painted by the artist William Daniell and published as *A Voyage Round Great Britain in 1813*.

Category	Massie 1759	Colquhon 1803
Merchants	1,000 at £600 2,000 at £400 10,000 at £200	2,000 at £2600 13,000 at £800
Shopkeepers and tradesmen *	2,500 at £400 5,000 at £200 10,000 at £100 20,000 at £70	74,500 shopkeepers at £150
Freeholders		
Higher	20,124 at £152	40,000 at £200
Lower	40,249 at £76	120,000 at £90
Clerks and shopmen	Not listed separately in 1759	60,000 at £75
Law	12,000 at £200	11,000 at £350
Teachers	Not listed separately in 1759	20,000 at £150
Artisans	228,000 at wages between £19 and £30	445,726 at £55

* Shopkeepers are not separated out from tradesmen in Massie's survey in 1759. The changes in categories from 1759 to 1803 indicate the increased socio-economic identification of shopkeepers, clerks and teachers by the end of the eighteenth century.

Fig. 13. Comparison of middle-ranking incomes in England selected from the surveys of Joseph Massie in 1759 and Patrick Colquhon in 1803.

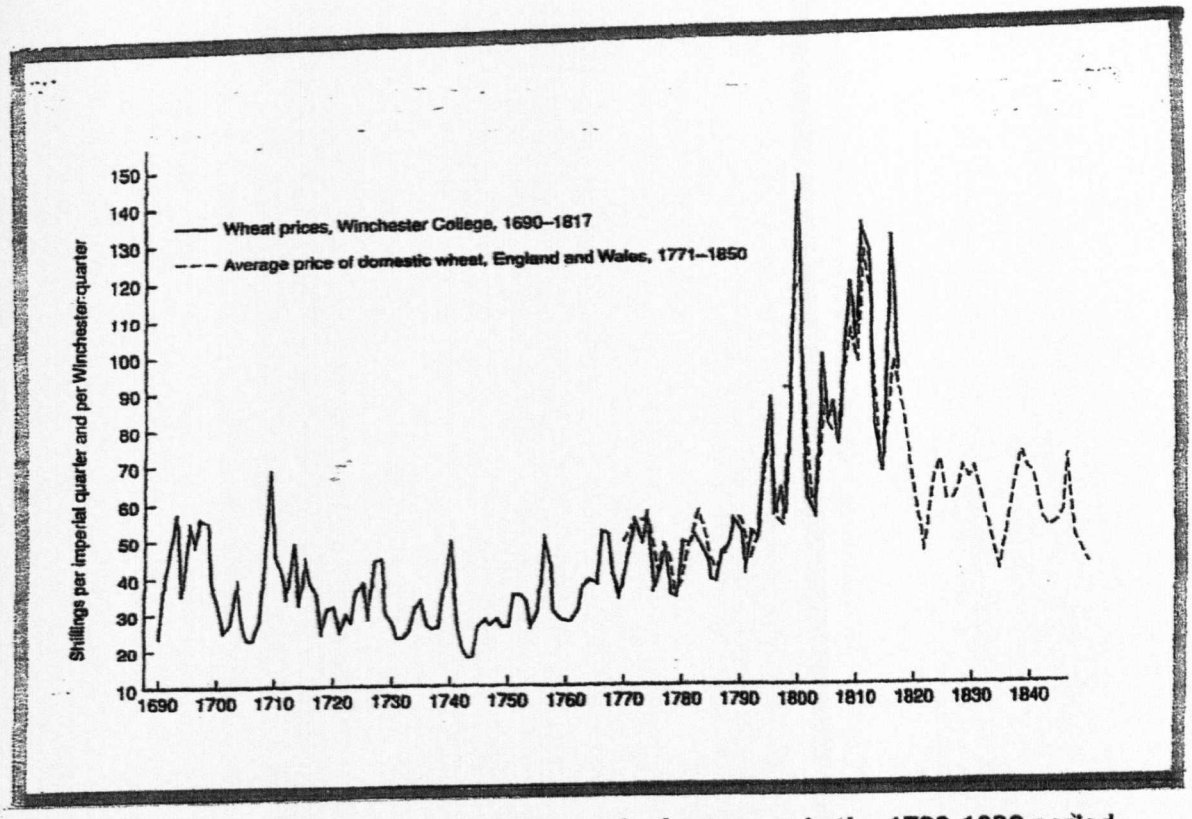


Fig. 14. Fluctuations in the price of wheat reached extremes in the 1790-1820 period.

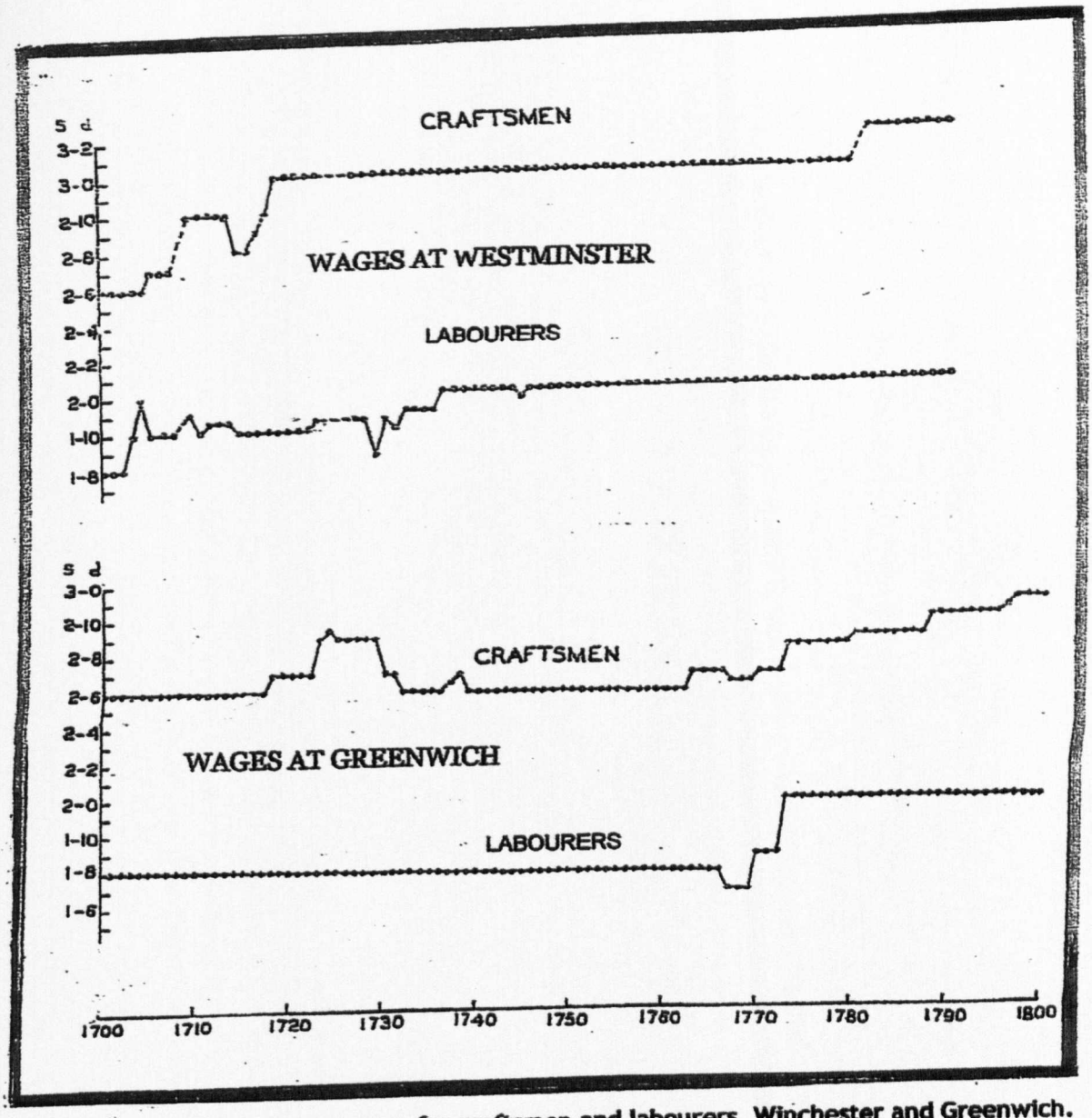


Fig. 15. Eighteenth-century wages for craftsmen and labourers, Winchester and Greenwich. Adapted from charts in E. W. Gilboy (1934), *Wages in Eighteenth Century England*, Cambridge, Harvard University Press, p. 47.

Fig. 16. The title page of William Combe's *Doctor Syntax in Search of the Picturesque*, a 240-page story in verse form satirizing middle-class fascination with the visual appeal of the countryside. Tiring of schoolmastering, Doctor Syntax sets out to make his fortune from travel writing, saying: *I'll prose it here, I'll verse it there, and picturesque it everywhere.'*

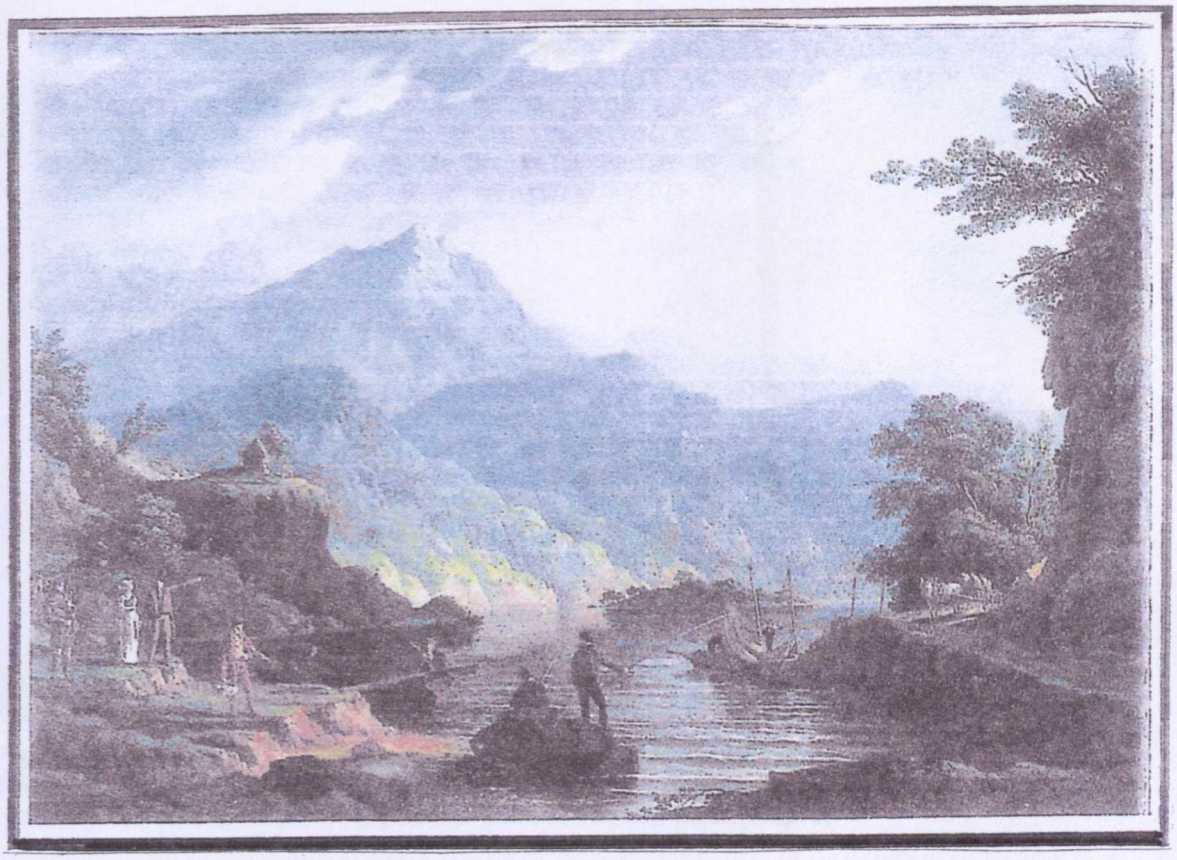


Fig. 17. *Tourists at Loch Katrine*, by John Knox.

Fig. 18. Above: *The Thames near Twickenham*, c. 1745, by Richard Wilson. Below: A watercolour dated 1811, by C. Shepheard, of a scene at Twickenham, typically reflecting continuing popular interest in the picturesque.

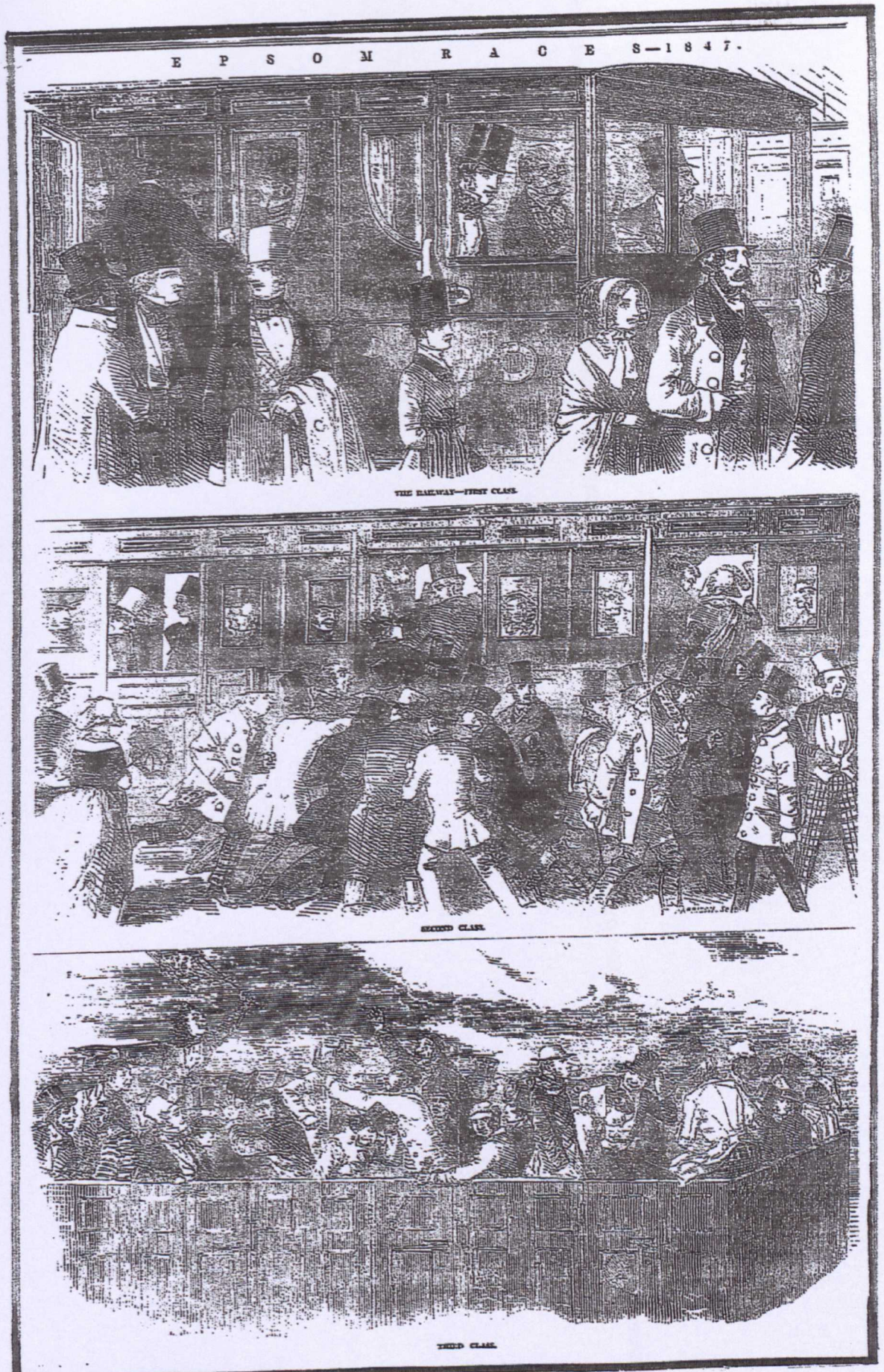
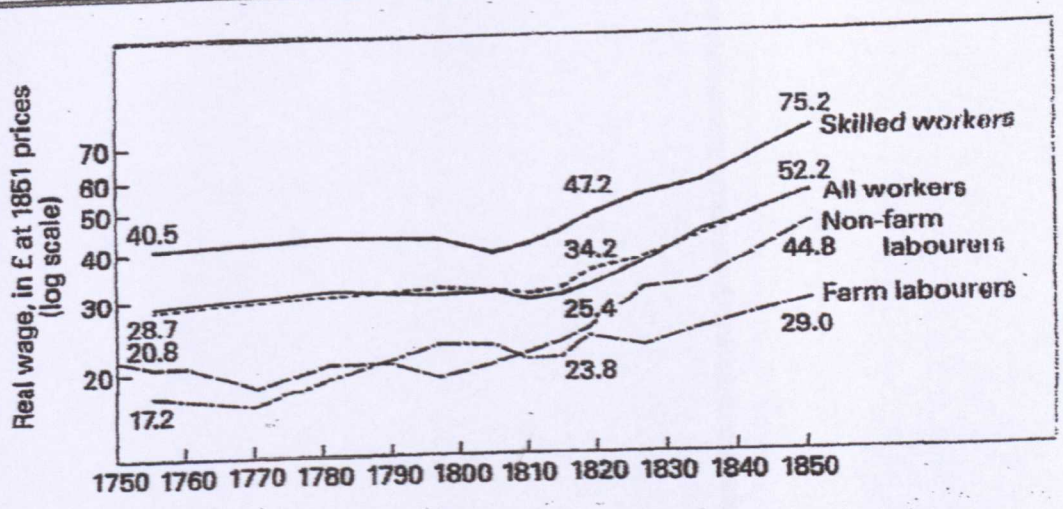


Fig. 19. Class distinction in railway travel to Epsom Races in 1847, as depicted by the *Illustrated London News*.



The above is taken directly from Peter H. Lindert, 'Unequal Living Standards' in Roderick Floud and D.N. McCloskey (1994), *The Economic History of Britain since 1700*, Vol.I, Cambridge, Cambridge University Press, p. 370. The author expresses caution about reliance on the accuracy of the figures, which are rough national averages mixing together data from different regions, but says nevertheless that 'there must have been a substantial rise in the real earnings of working men between 1820 and 1850, even allowing for unemployment.' For this study, the figures would appear to reinforce the impression that leisure travel by steamboat came increasingly within the working man's reach after the first quarter of the nineteenth century, especially as steamboat fares fell considerably between their earliest years and the 1830/40s (see chapter 4).

Fig. 20. Working men's wages, 1750-1850.

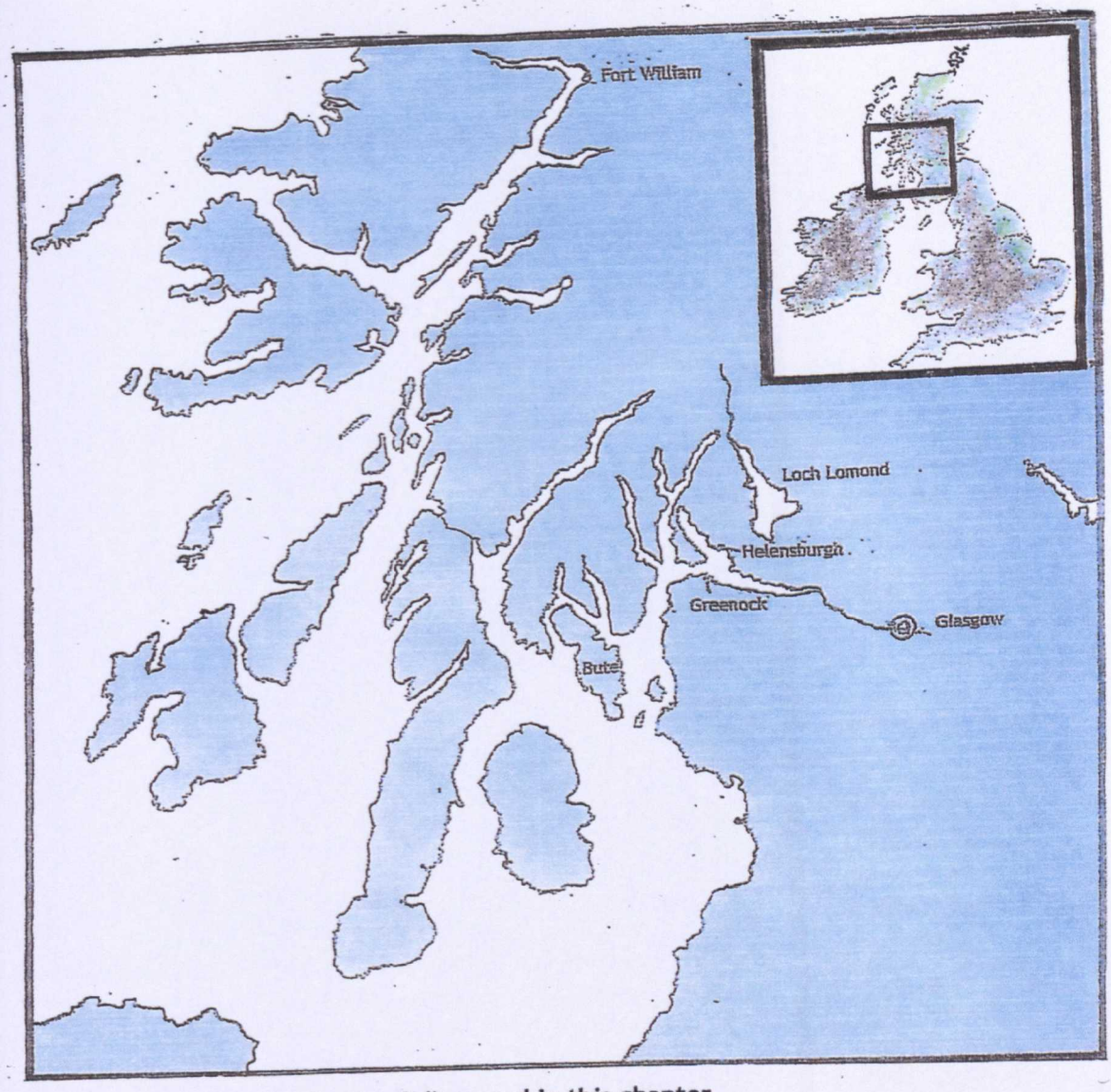


Fig. 21. The region of Scotland discussed in this chapter.

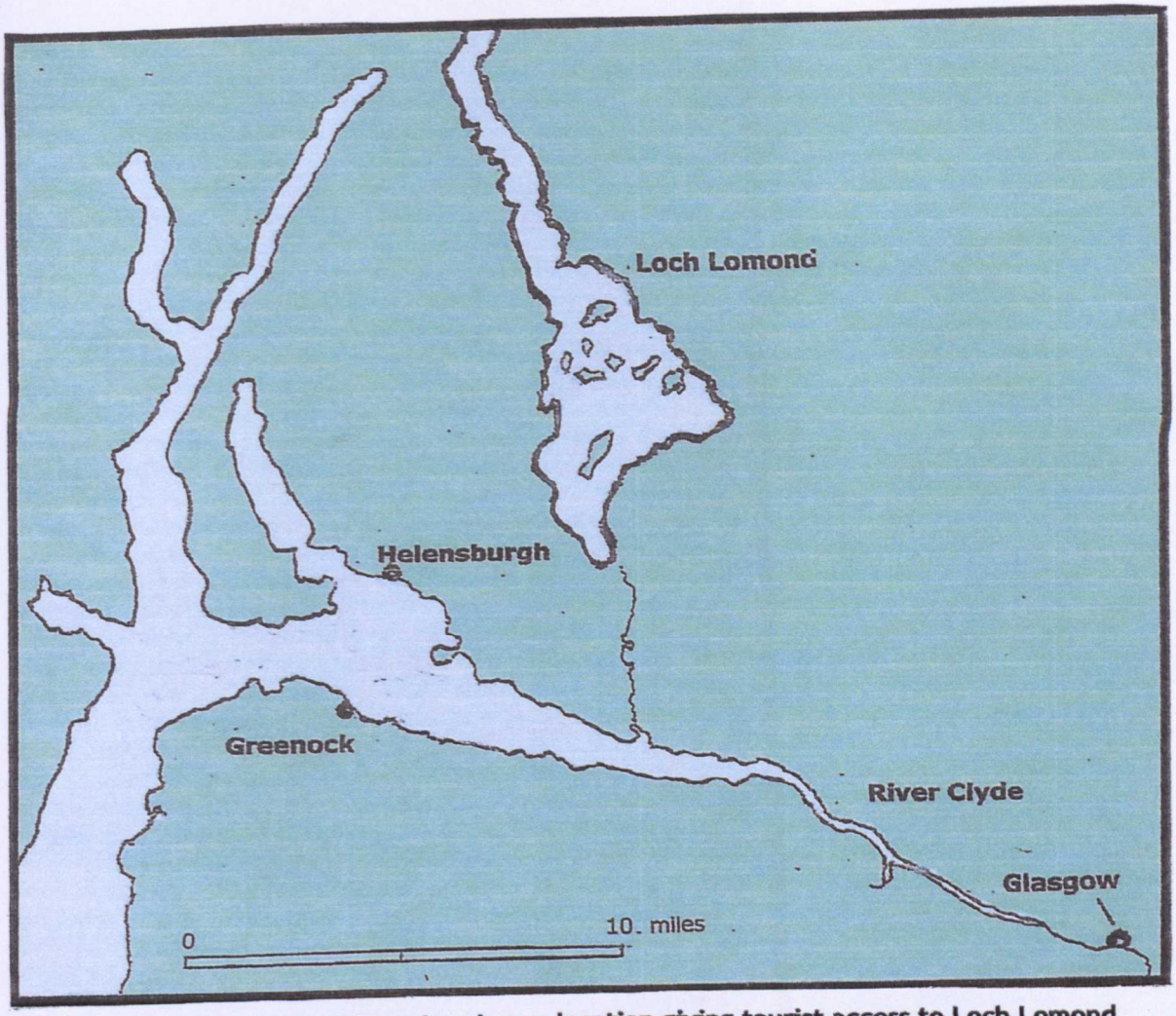


Fig. 22. The advantage of Helensburgh as a location giving tourist access to Loch Lomond, Garelochside and other nearby parts of the South Argyllshire Highlands.

STEAM PASSAGE BOAT,
THE COMET,
Between Glasgow, Greenock, and Helensburgh,
FOR PASSENGERS ONLY.

THE Subscriber having, at much expence, fitted up a handsome VESSEL to ply upon the RIVER CLYDE BETWEEN GLASGOW and GREENOCK - to sail by the Power of Wind, Air, and Steam - he intends that the Vessel shall *leave the Broomielaw* on *Tuesdays, Thursdays and Saturdays*, about mid-day, or at such hour thereafter as may answer from the state of the Tide - and *to leave Greenock* on *Mondays, Wednesdays and Fridays, in the morning, to suit the* Tide.

The elegance, comfort, safety and speed of this Vessel requires only to be proved, to meet the *approbation of the Public; and the Proprietor is* determined to do everything in his power to merit public encouragement.

The terms are, for the present, fixed at 4s. for the best Cabin, and 3s. the second – but, beyond these rates, nothing is to be allowed to servants, or any other person employed about the Vessel.

The Subscriber continues his Establishment at HELENSBURGH BATHS, the same as for years past; and a Vessel will be in readiness to convey Passengers in the Comet from Greenock to Helensburgh.

Passengers by the Comet will receive information of the hours of sailing, by applying at Mr. Houston's Office, Broomielaw; or Mr. Thomas Blackney's, East Head Quay, Greenock.

HENRY BELL.

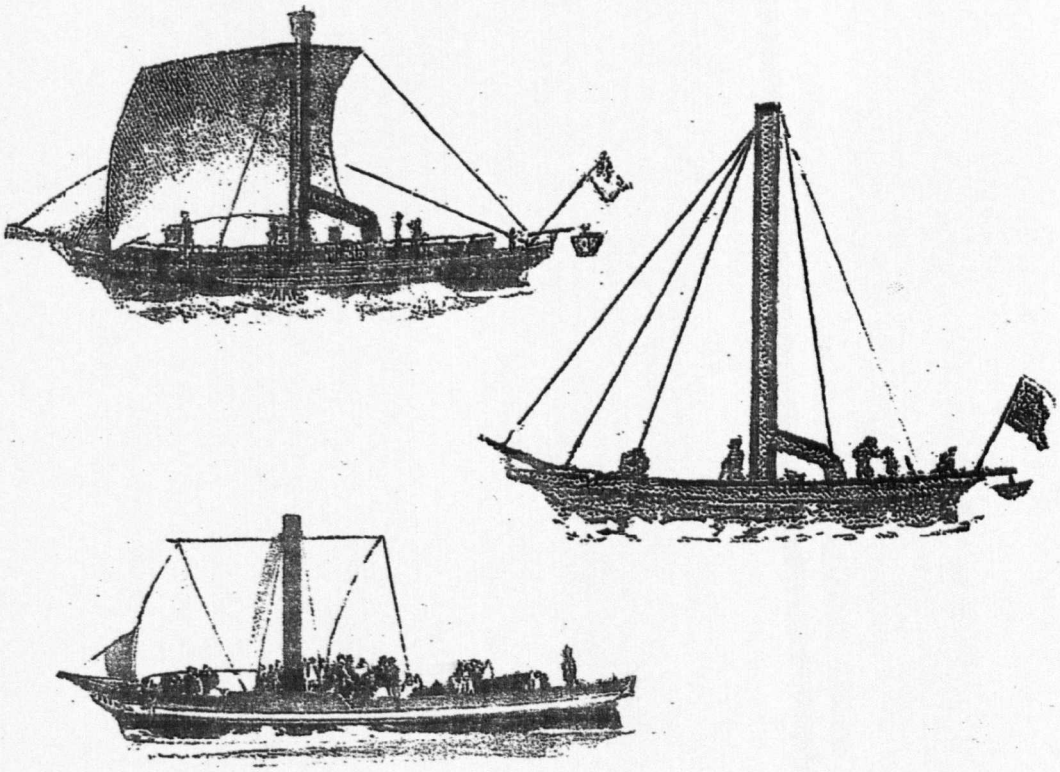
Helensburgh Baths, 5th August, 1812.

Fig. 23. Transliteration of Henry Bell's advertisement for the launch of his passenger-carrying services in the *Comet*.

Fig. 24. Henry Bell's *Comet*.

In view of the seminal position in steam navigation occupied by Henry Bell's *Comet*, it would be of considerable historical interest to know what the vessel looked like. Since photographic images did not become available until four or five decades later, the most accurate basis for initially visualizing the vessel's lines is the set of plans drawn up by the John Wood shipyard. An outline of the vessel's hull, based on a reproduction of those drawings, is shown in chapter 1, Fig. 9. The only other visual references available are artists' impressions of the steamboat, and three of these are reproduced in Osborne's biography of Bell, one of them being an illustration on his business card. Unfortunately these are inconsistent in important details, and it is not thought that they can be taken as truly accurate representations. Outlines extracted from these illustrations are shown below.

One obvious inconsistency in these drawings is in the appearance of the mast/funnel. Two of the illustrations show what appears to be a flue-pipe from the boiler, rising from the deck and being bent over to join the vertical funnel at an angle. Nothing of this kind has been found in illustrations of other steamboats of the time, and it has to be wondered whether this feature might have been the result of a mistake by the artist, possibly over-exaggerating a much smaller similar feature that can be seen in a thumbnail sketch on the ship-yard drawings. The *Comet* more probably had a simple mast/funnel as in the third illustration. Since this drawing shows a more accurate rendering of the vessel's hull and deck, it is conceivably more accurate in other respects as well.



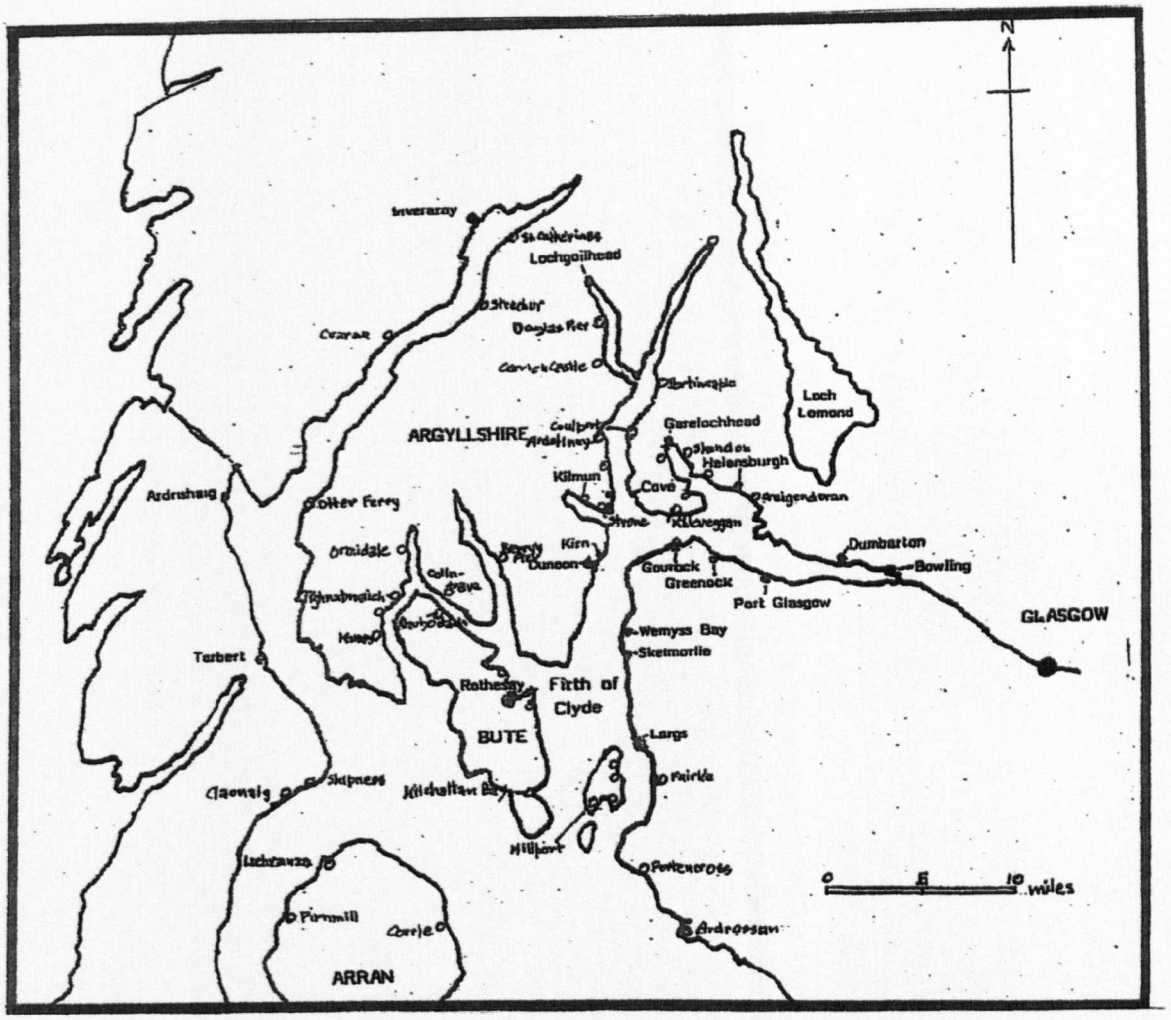


Fig. 25. The area of lochs and islands to the west of Glasgow and the Firth of Clyde where landing places for steamboats were established during the 1820s.

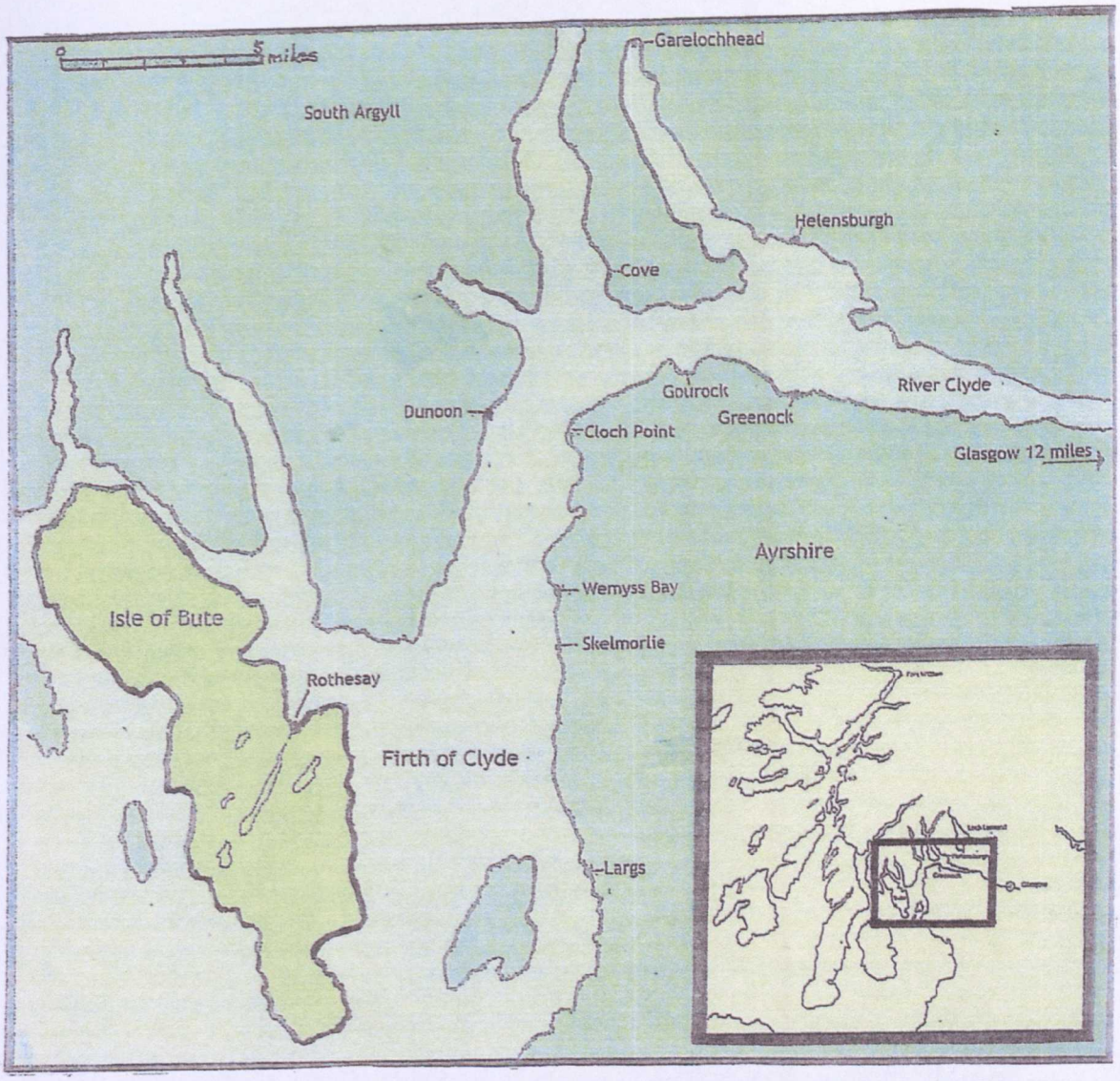


Fig. 26. The Isle of Bute, which by the 1840s became the most popular holiday destination for Glaswegians, with artisan crowds brought by excursion steamers becoming a feature of the port of Rothesay during Glasgow's Fair Week.

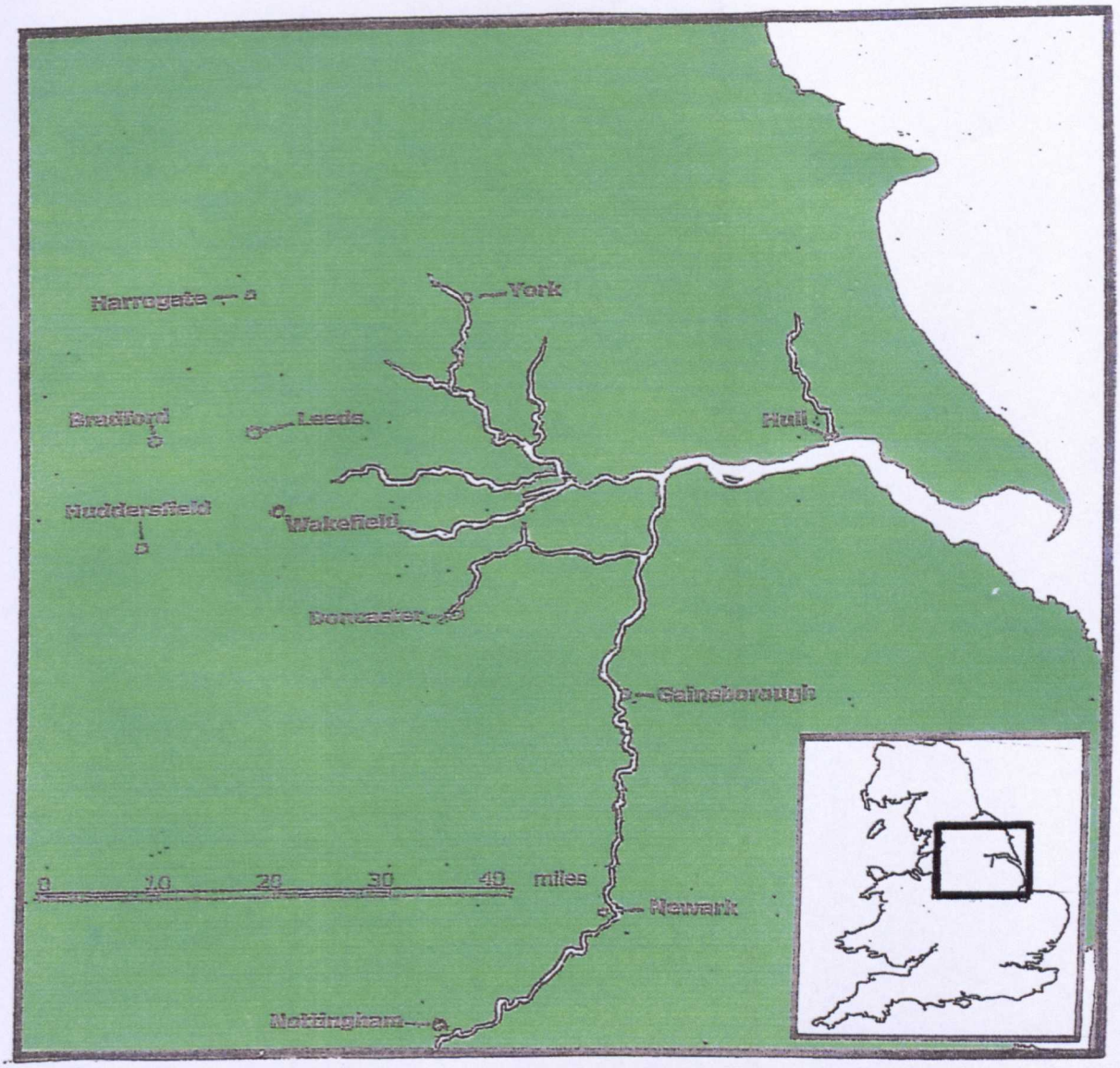


Fig. 27. The area of the north Midlands and Yorkshire discussed in this chapter 4.

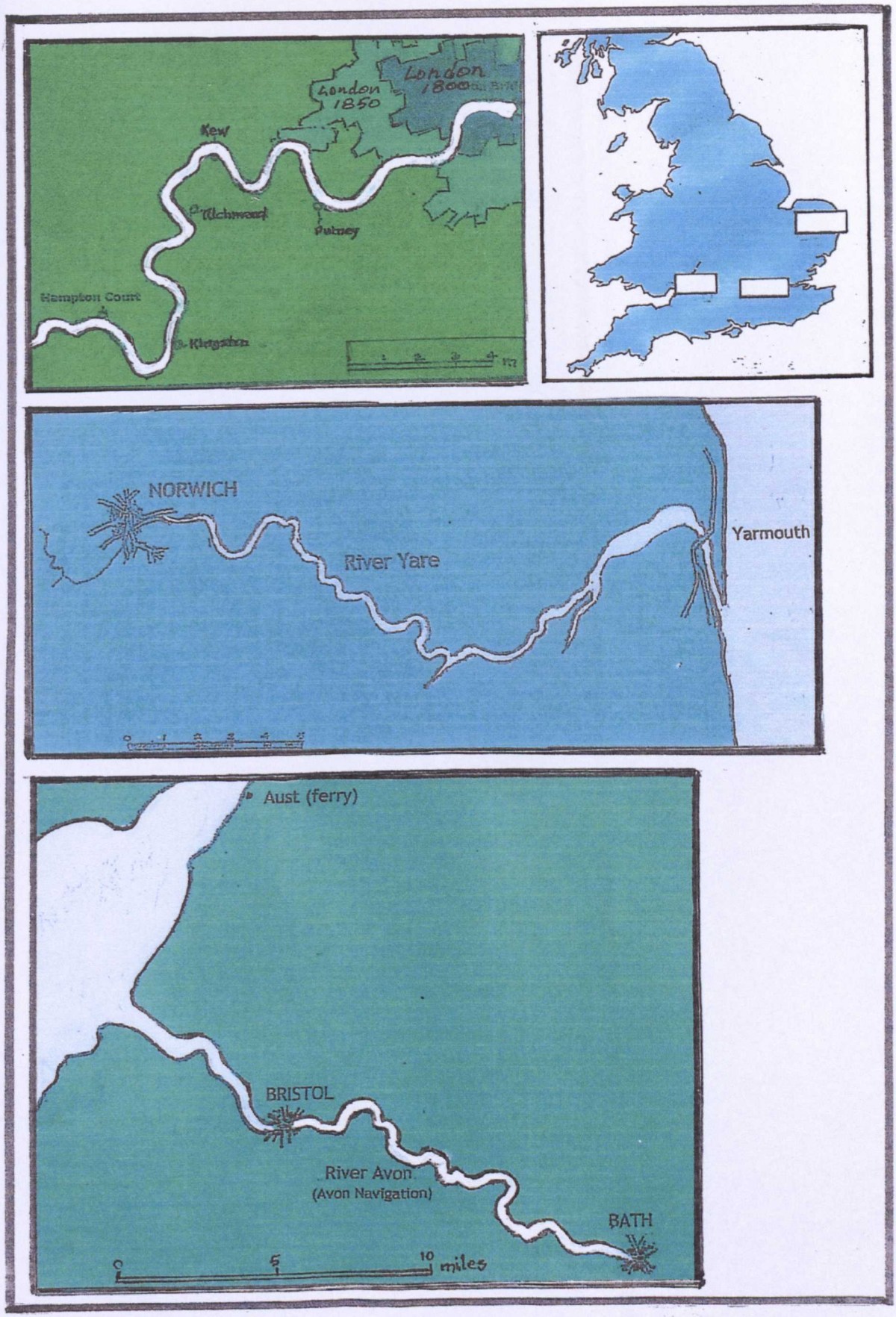


Fig. 28. Early steamboat passenger services launched at locations in England included one or more on the river Thames upstream from London, one on the river Yare between Norwich and Yarmouth, and another on the Bristol Avon between Bath and Bristol.

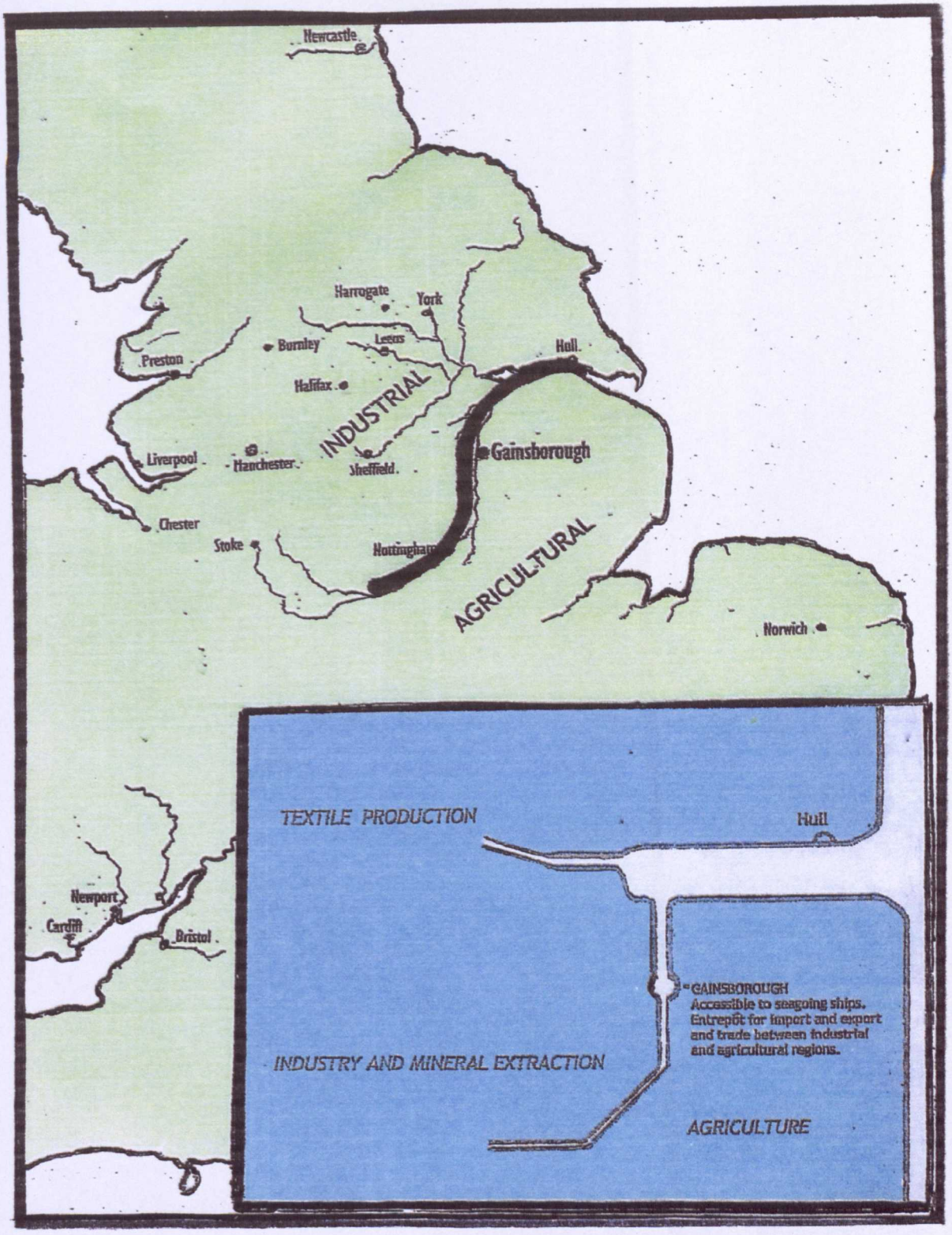


Fig. 29. The advantageous location of Gainsborough on the river Trent, which made it an important entrepôt (since the Middle Ages) between industrial and agricultural regions of the country, with the status of an inland Customs-authorized trading port.

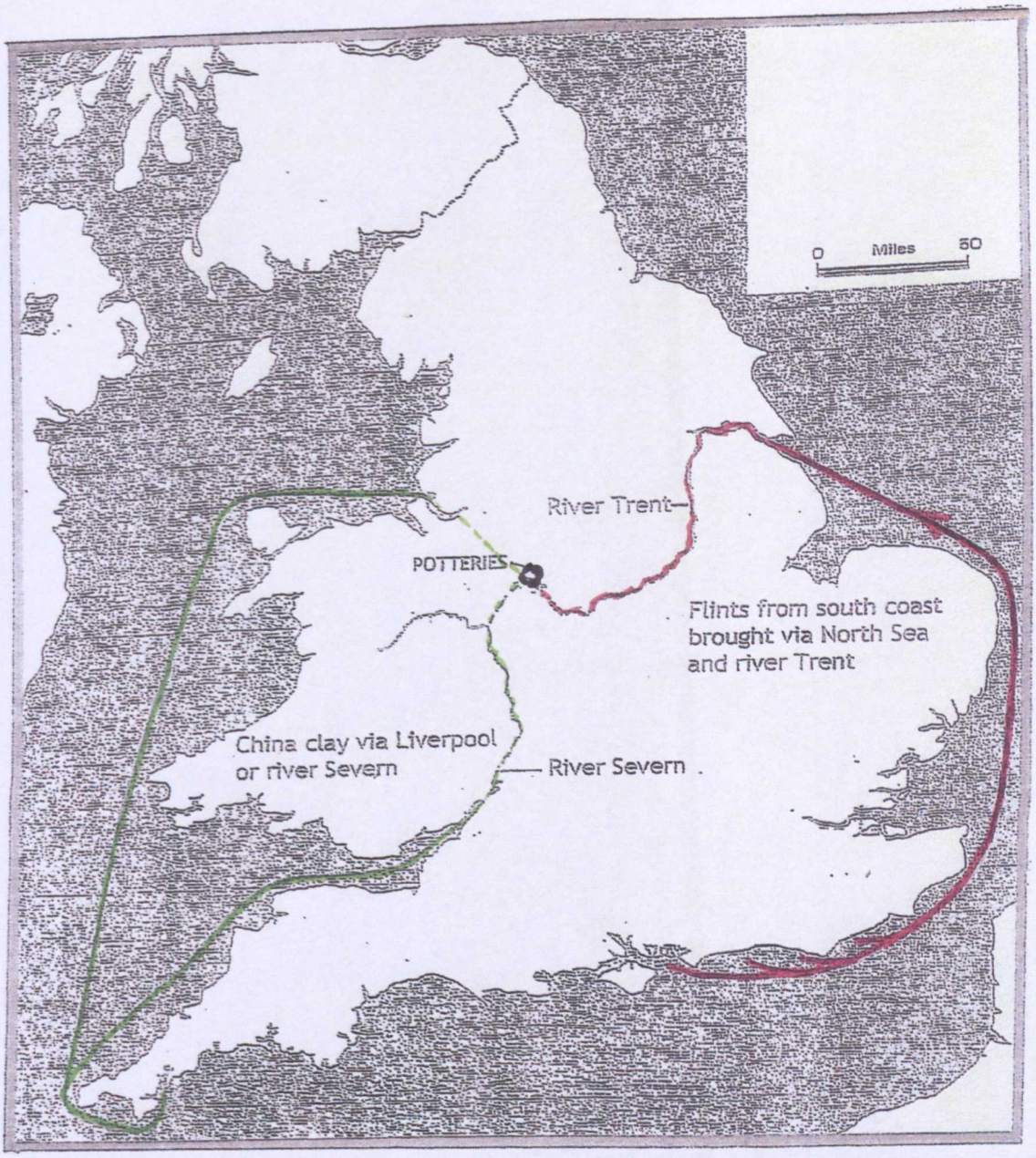


Fig. 30. The river Trent, a traditionally important waterway for trade between the North Sea and the heart of the Midlands, was one component of the eighteenth-century route for the transport of flint stones from the south coast to the ceramics industry of the Potteries. Before the construction of the Trent and Mersey Canal gave direct access to the Potteries via Liverpool, flints were transported by water from their source, via Hull and the river Trent to Derbyshire, and on to the Potteries by packhorse. China clay was taken from Cornwall by sea to Liverpool, or via the river Severn to Bridgnorth, and finally on by packhorse.
Map adapted from J.L.Gayer, I.Richardson and J.A. Morris (1966), *A Sketch-Map Economic History of Britain*, London, George Harrap, p. 98.

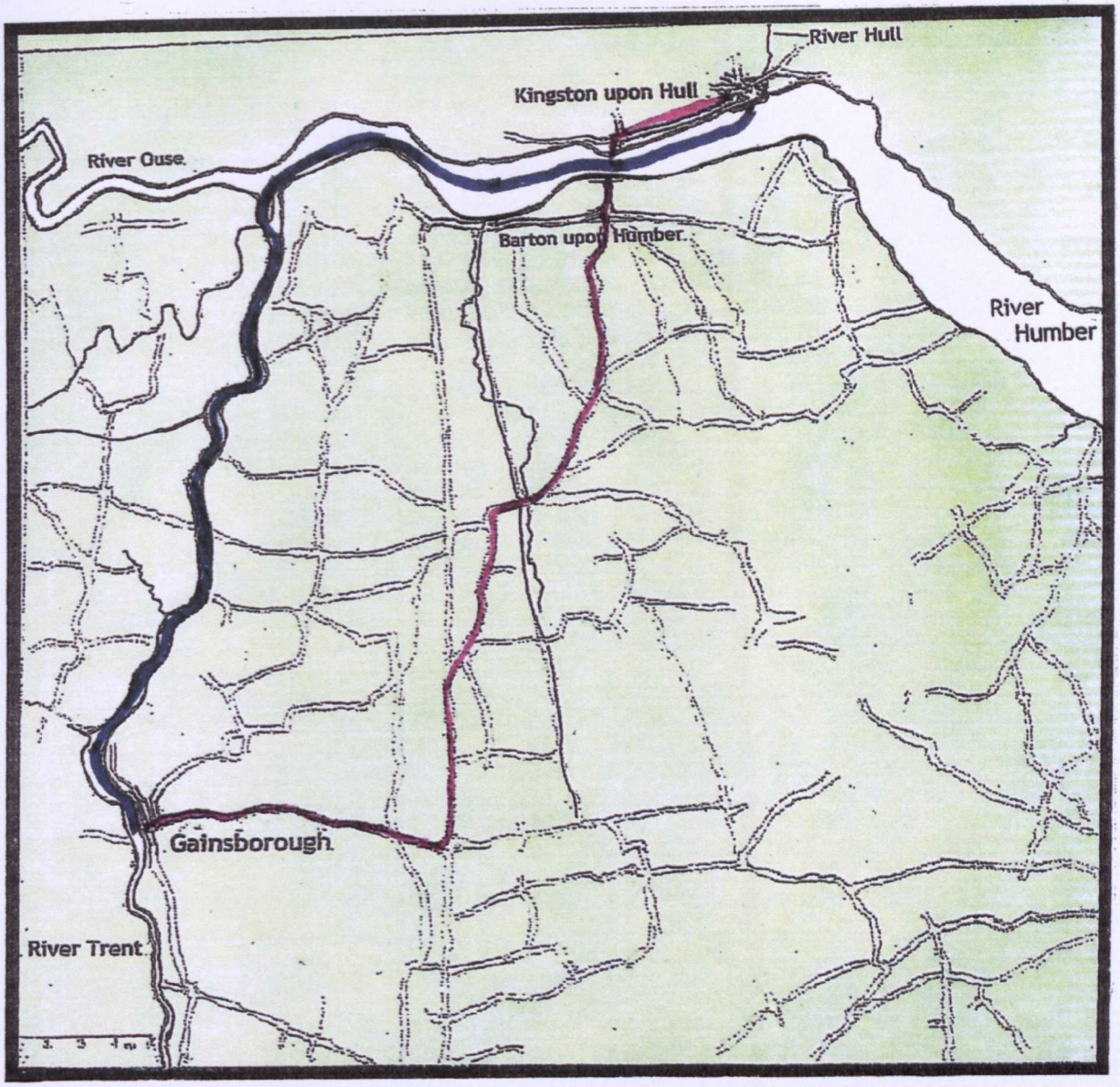


Fig. 31. Before the acquisition of Gainsborough's first steamboat in 1814, businessmen had only two options for travel to Hull - a slow sailing vessel down the Trent and Humber, or an expensive and uncomfortable stagecoach journey by road, via the ferry at Barton.

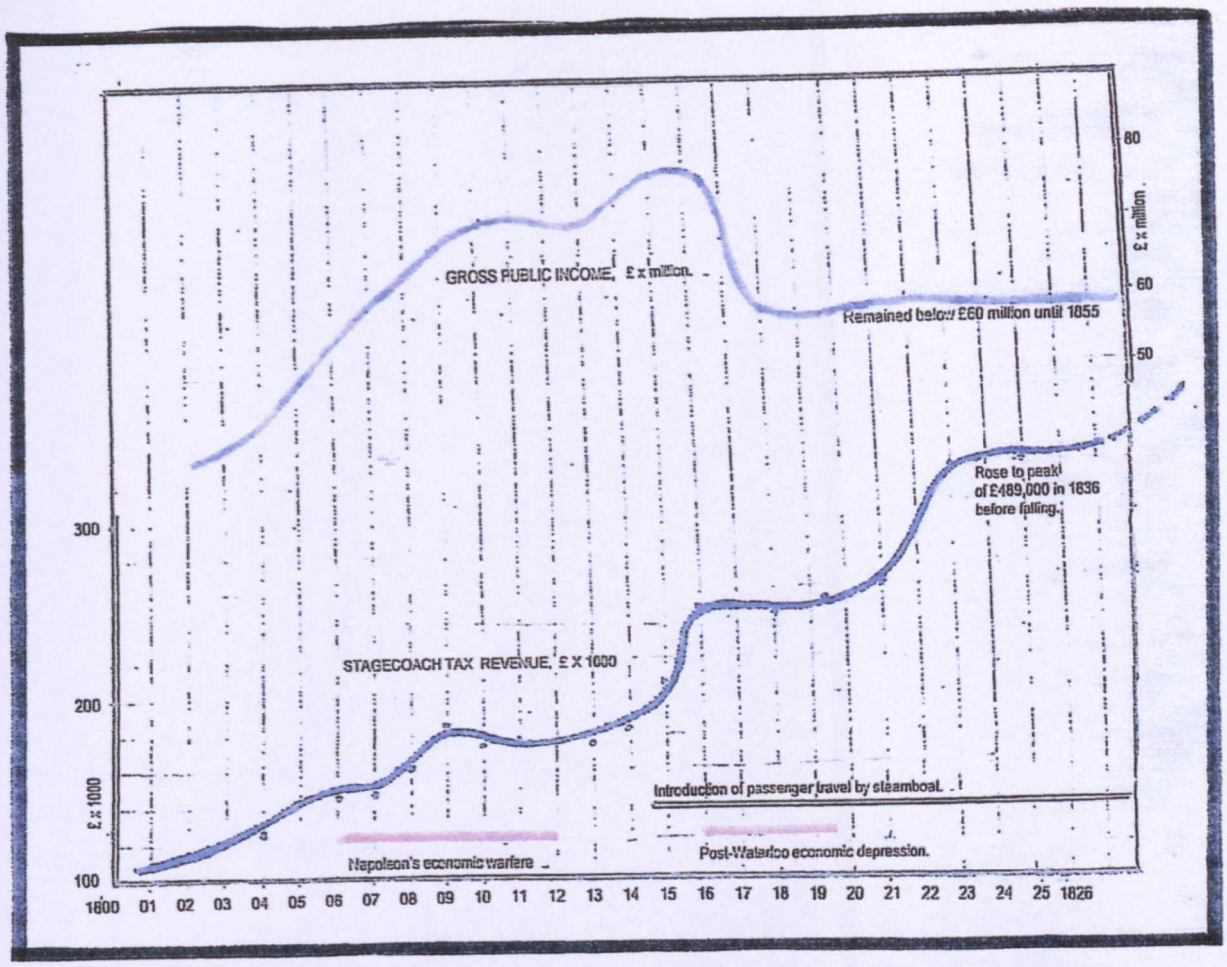


Fig. 32. Stagecoach activity in the years 1804 to 1826, as indicated by figures of tax receipts, compared with gross public income. In the period 1810 to 1836, stagecoach tax revenue rose from £180,000 to £490,000. During the same period, the population of England rose from 9.5 million to 14 million.

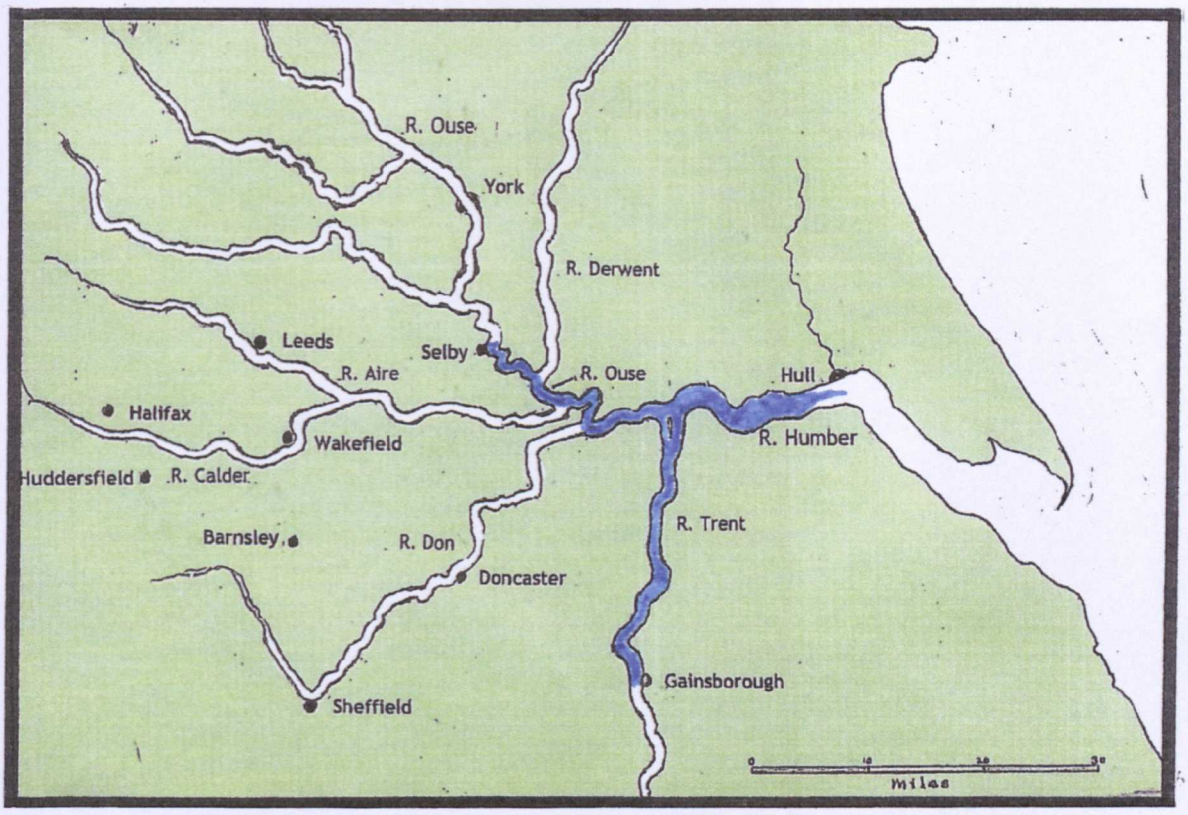


Fig. 33. The natural river system of industrial Yorkshire, discharging into the river Humber. Sea-going sailing ships could travel inland only a far as Selby on the Ouse, and Gainsborough on the Trent.

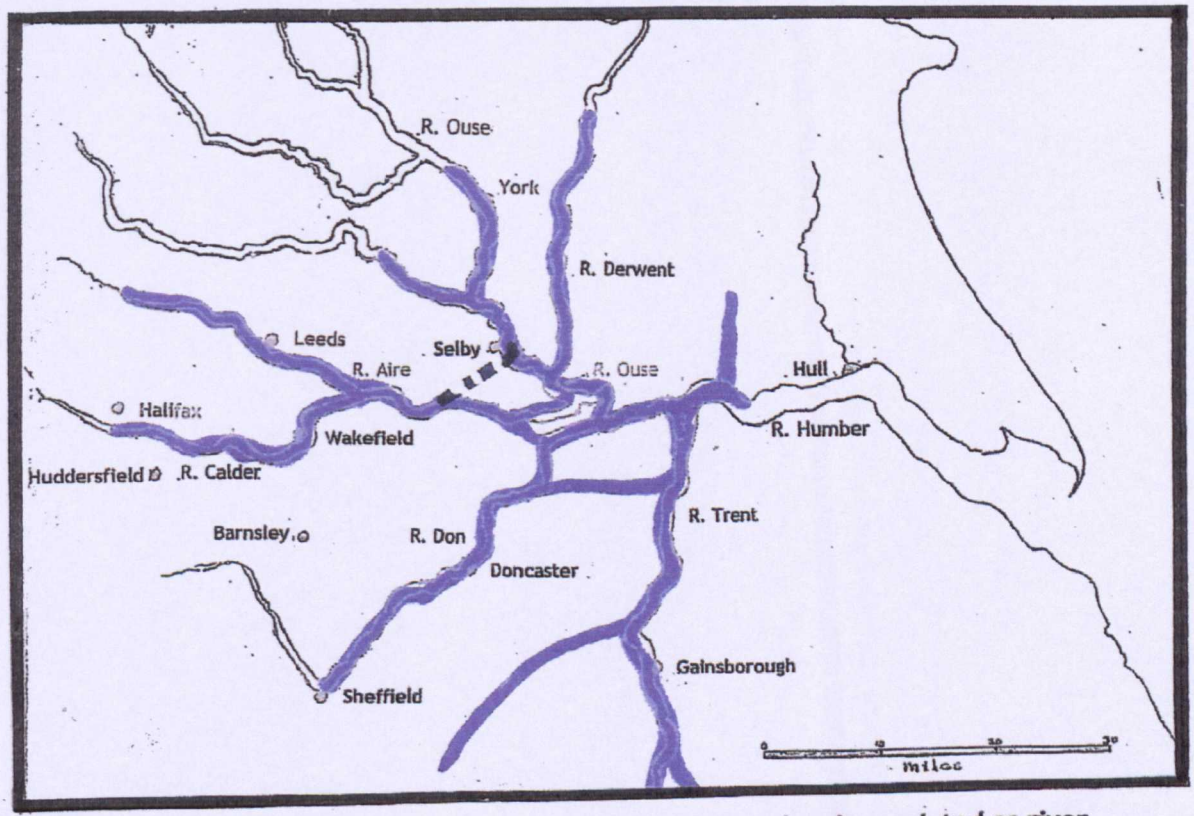


Fig. 34. The principal waterways of the same area improved and completed as river navigations by 1830.

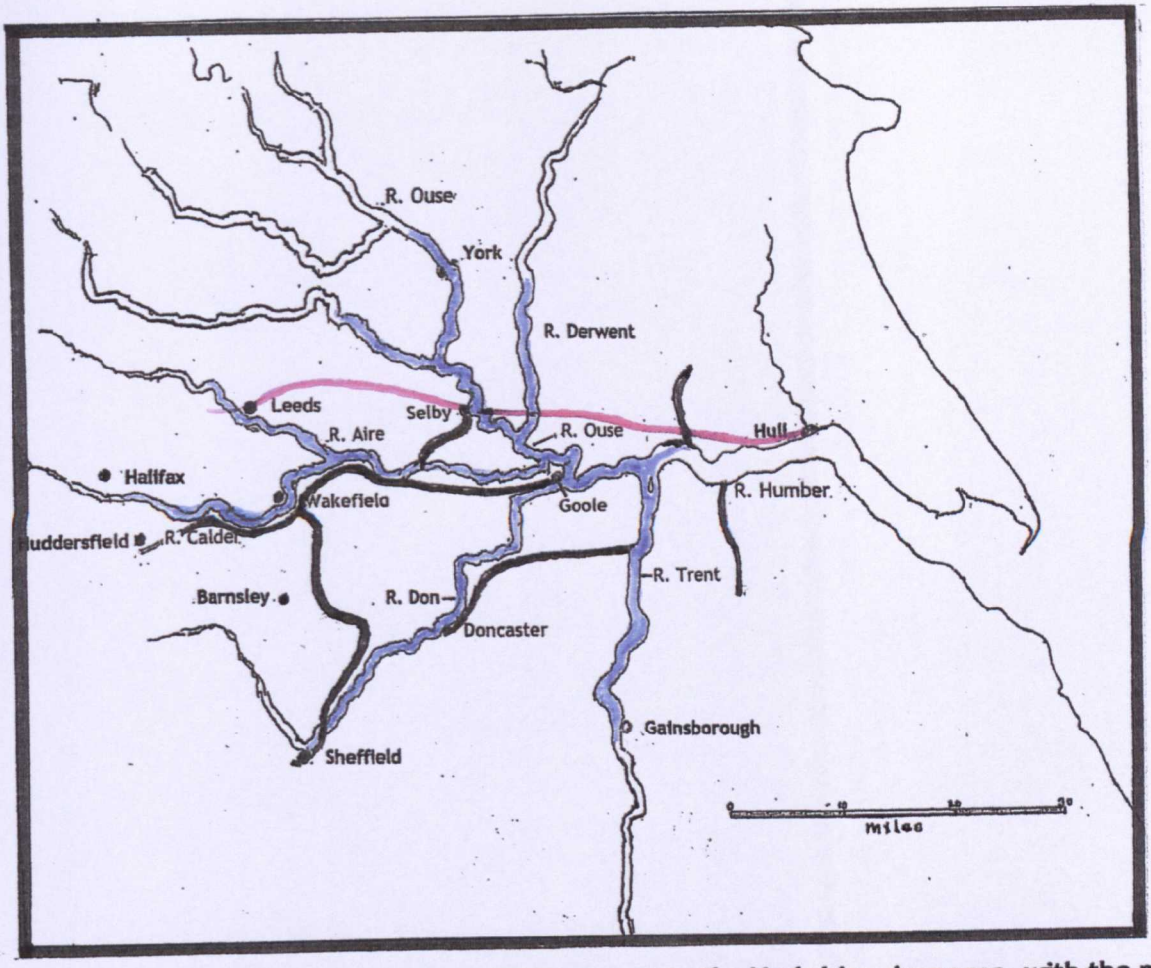
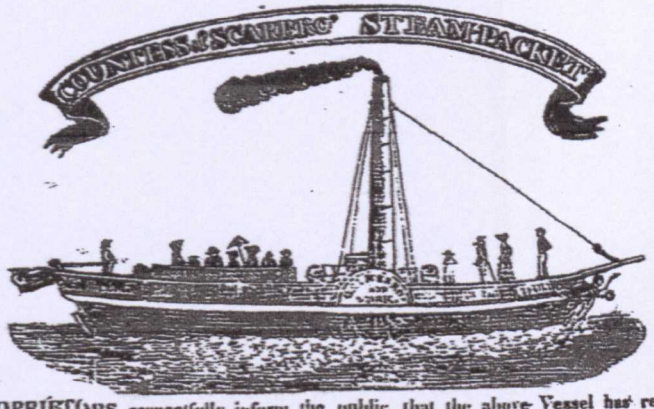


Fig. 35. The final stage in waterway improvement in the Yorkshire river area, with the most important added links being that from the Aire to Selby, and the final stage of the Aire and Calder Navigation across to the new port of Goole. The importance of these faded when the railway from Leeds to Hull (red line) was completed in 1840.

EXPEDITIOUS

CONVEYANCE

BY THE



THE PROPRIETORS respectfully inform the public, that the above Vessel has recommenced running between Gainsborough and York, and is fitted up in a very superior style, with a new Boiler on the safest and most approved principle, together with every other convenience for the accommodation of

Passengers

AND

GOODS,

Not exceeded by any Packet on the River Trent or Ouse.

By the above mode of conveyance, a more expeditious communication is opened between the Counties of York, Lincoln, Nottingham, Derby, Leicester, and all the south-east part of the Kingdom, than was ever before offered to the public, *the Packet generally performing the passage in 12 Hours.*

Shippers of Goods to Selby, York, Harrowgate, Malton, Knaresboro', Boroughbridge, Ripon, Richmond, and all the north-west parts of Yorkshire, who wish to avail themselves of this expeditious conveyance, are particularly requested to consign their Goods to Messrs. DEAN & BEAUMONT, Wharfingers, Gainsborough, or Messrs. HENRY MILLS & SON, Wharfingers, York, by whom applications will be punctually attended to.

The Countess of Scarbro' leaves Gainsborough for York, every Wednesday and Saturday; and returns from York to Gainsborough, every Monday and Thursday, at such times as may suit the Tides.

The Packet, on her arrival at Gainsborough, meets the Coaches for Manchester and Nottingham; the Packets for Nottingham, Newark, Lincoln, &c. Vessels for Lynn, Yarmouth, Colchester, Ipswich, and the Trent Boats for Shardlow, and all the interior parts of the Kingdom.

The Proprietors will not be accountable for any Parcel or Package, above the value of Five Pounds, unless booked and paid for accordingly.

Best Cabin Passengers, 8s.—Fore Cabin ditto, 6s. each.

*** Persons frequenting Harrowgate and Scarbro', will find this a cheap and pleasant conveyance.

October 19, 1820.

J. KNAGGS, PRINTER, LITTLE CHURCH-LANE, GAINSBOROUGH.

Fig 36. The advertisement for the goods and passenger services provided by the *Countess of Scarbro'* steamboat.

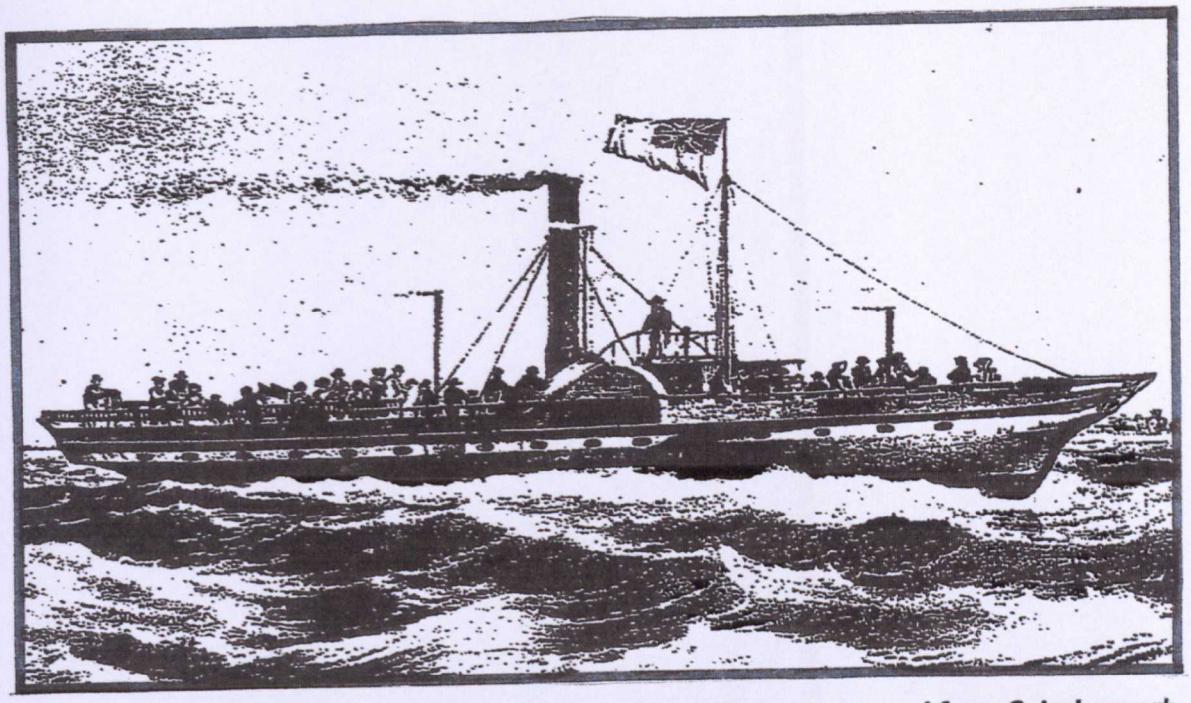
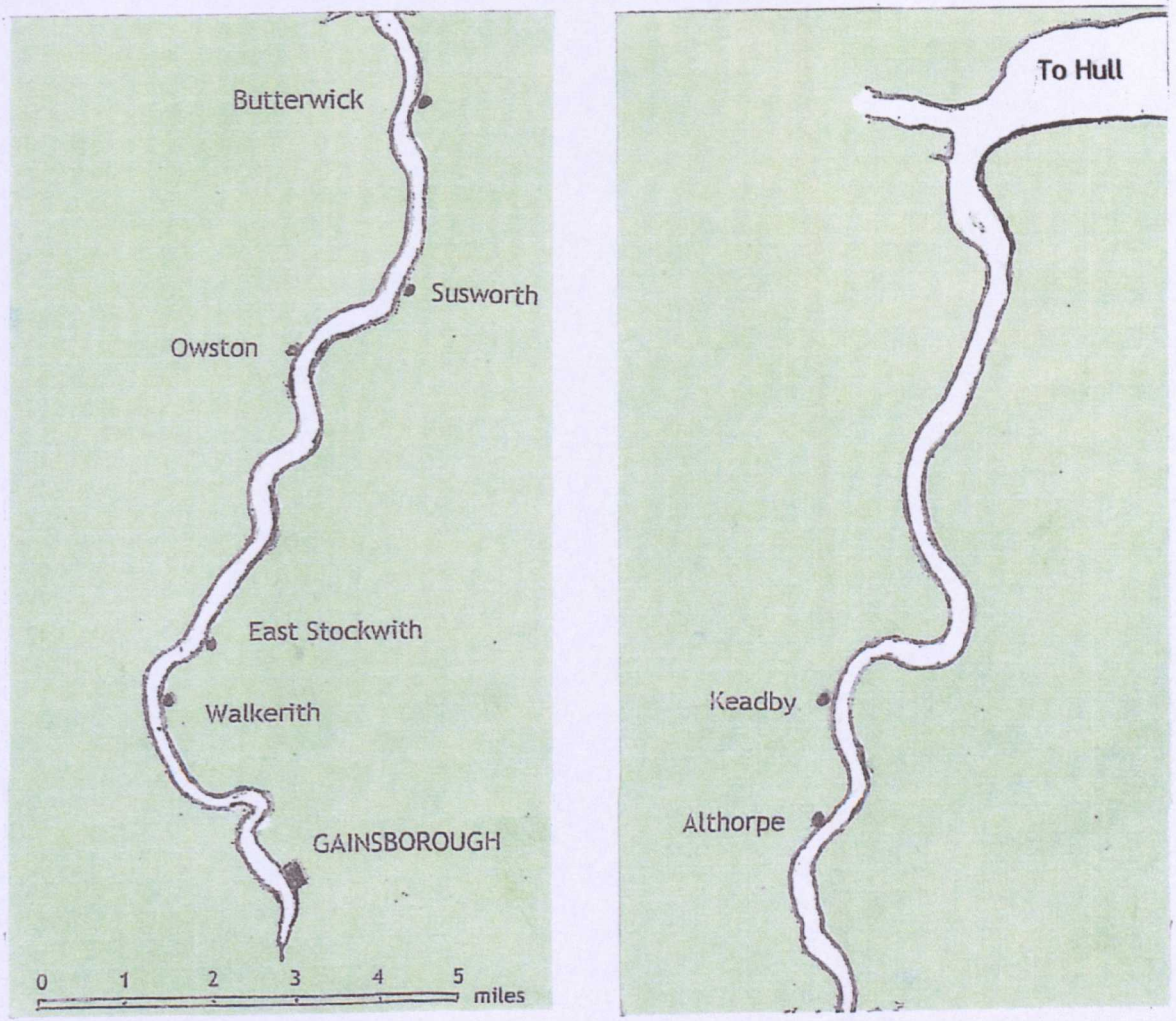


Fig. 37. The steam packet *Columbine*, which with the *Lindsey* operated from Gainsborough in the 1840s to provide a shopping service for villages at ferry points along the river Trent.



MORE ACCOMMODATION

The Public are most respectfully informed that, in conjunction with the *Leeds and Selby* Railway, a new and light Four-inside COACH, called the Railway, will leave the Elephant and Castle, Knaresbro', on Monday the 14th of June, at Five o'clock in the morning, through Ribston, North Deighton, Kirk Deighton, Wetherby, Thorp Arch, Bramham, Cross Roads, Aberford, and Micklefield, at which place it will arrive at half-past Seven o'clock, in time for the *Railway Train to* Selby and the Steam Packet to Booth Ferry, Howden, Blacktoft, *Swinefleet, Goole,* Saltmarshe, Whitgift, Whitton and Hull, so as to communicate with the Steam Packet for London, Hamburg, &c.; and by Coaches daily to Bridlington and Scarborough. The above Coach will leave Micklefield on the arrival of the Railway Train from Hull, and return by the same route to the Elephant and Castle, Knaresbro' and Harrogate.

Passengers adopting this new and expeditious conveyance, will find it the cheapest and most direct from all parts of Lincolnshire to all parts of the West and North of Yorkshire. Two or three days each fortnight Passengers from the North or West may have Three or Four Hours in Hull, and return by the same route the same day, a distance of 166 miles.

Passengers and Parcels may be booked for Hull at the Elephant and Castle, Knaresbro', or at the Angel Inn, Wetherby, and at the Steam Packet Company's office, near Humber Dock Basin, Hull, or on board of the Steam Packet by the Steward.

Fares from Knaresbro' to Hull:

Outside Coach and Fore Cabin 0. 6. 0
Inside ditto Best ditto 0. 11. 0

N.B. A Railway Train leaves Micklefield every morning at Nine o'clock, with Passengers for Leeds.

Fig. 38. Transliteration of a newspaper advertisement published in 1835 for a stagecoach service from Knaresborough in Yorkshire, making rail and steamboat connections for travel through to Hull, towns in Lincolnshire, and North Sea crossings.

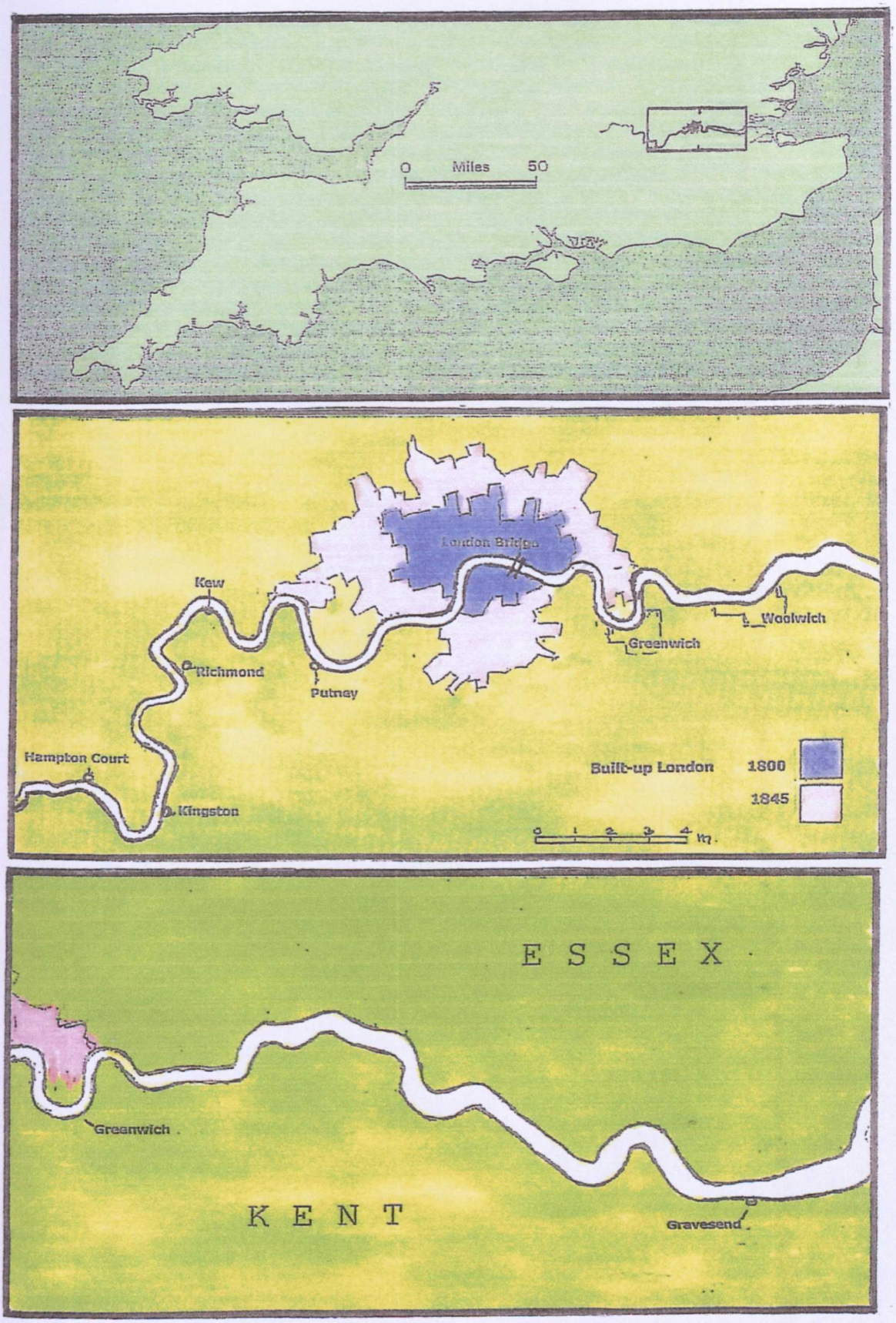


Fig. 39. That part of the river Thames on which the steamboat activity discussed in this chapter was centred. All rights to carry passengers on this stretch of the river, downstream as far as Gravesend, were held by the Company of Watermen and Lightermen of the River Thames. The central London areas sketched in this map give an indication of the size and the amount of outward growth of the city during the period under discussion.

Fig. 40. Above: The Thames in London in 1750 - an artist's impression showing the great numbers of passenger craft then in service, carrying Londoners across and along the river. The livery and badge of the licenced Watermen who held all rights to carry passengers on the river can be seen in the Rowlandson drawing (right).

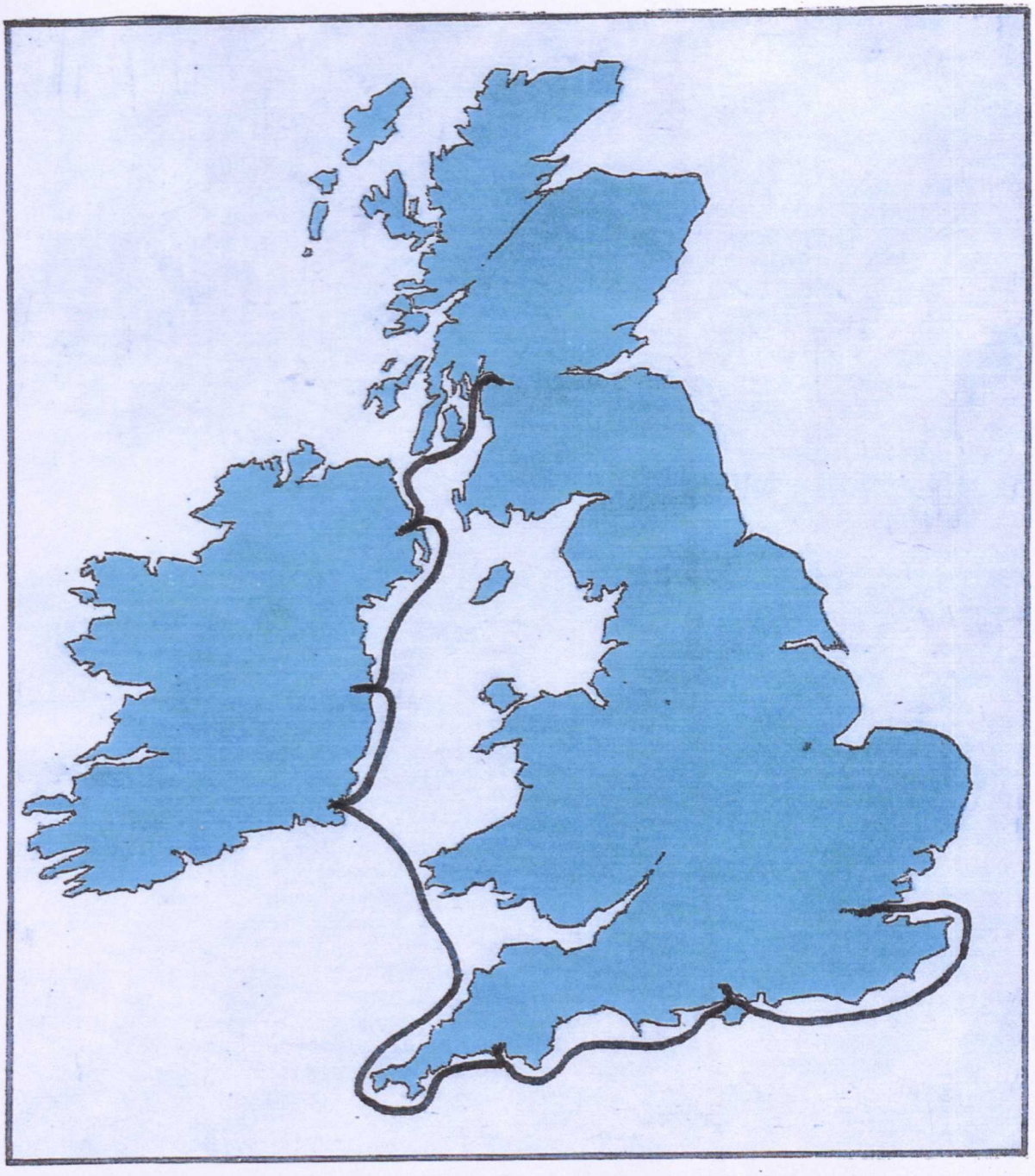


Fig. 41. The route taken by George Dodd when bringing the *Thames* steamboat from the Clyde to London.

Fig. 42. An artist's impression of the paddle steamer *Thames* successfully pulling away from a lee shore, in the voyage from the Clyde to London in 1815. This picture was reproduced in Dodd's book containing Isaac Weld's account of the voyage, but according to Dodd's own comments on the voyage, the mast/funnel was lowered during this episode.

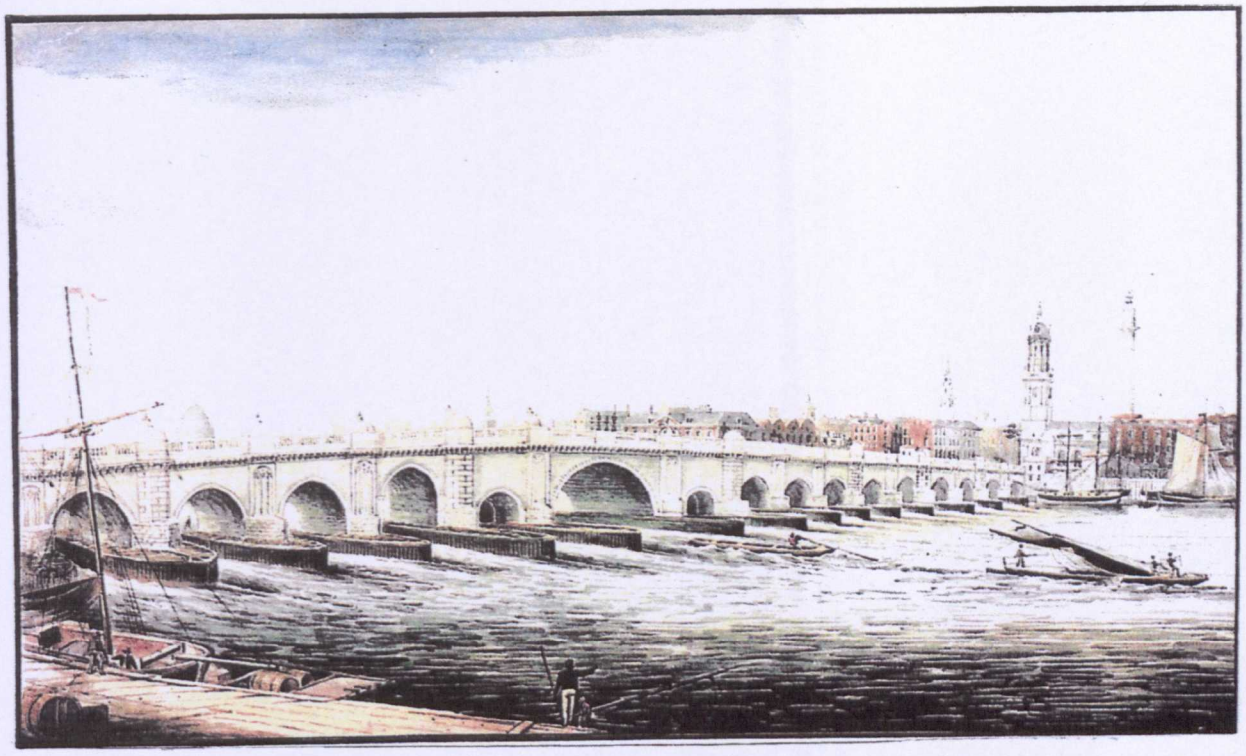


Fig. 43. This illustration of the old London Bridge, demolished in 1831, shows the strength of tidal flow through the narrow passages created by the stone piers ('starlings') that protected the bridge supports.

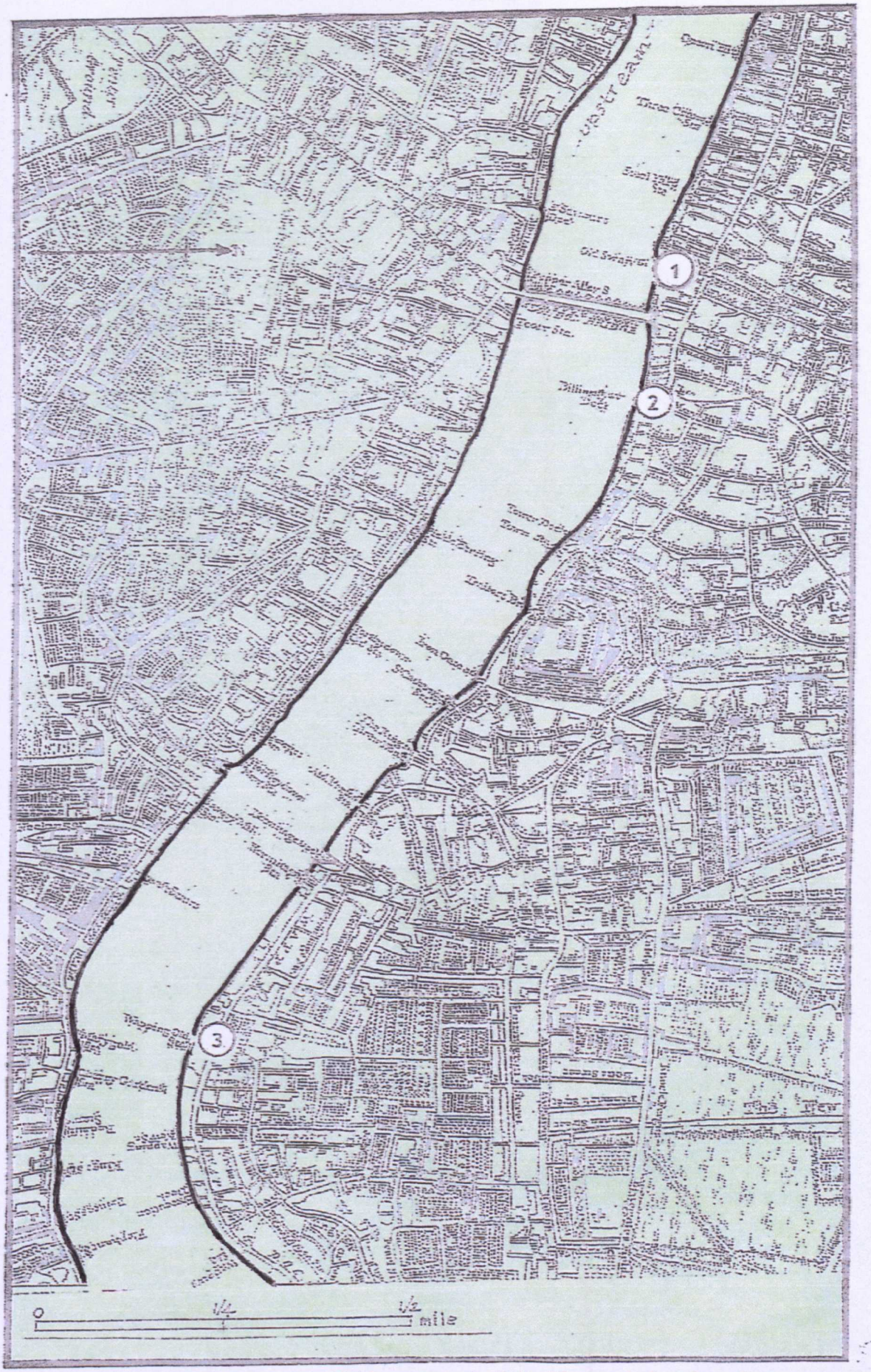


Fig. 44. Access points ('stairs') in the lower reach of the Thames in London where Watermen could pick up passengers. Until the new London Bridge was opened in 1831, passengers going downstream would leave the river at the Old Swan Stairs (1), and re-join a boat at Billingsgate Dock (2), to avoid the rapids at the bridge. Passengers for estuary steamboat services at that time generally embarked at Wapping Old Stairs (3), or other locations downstream of the bridge.

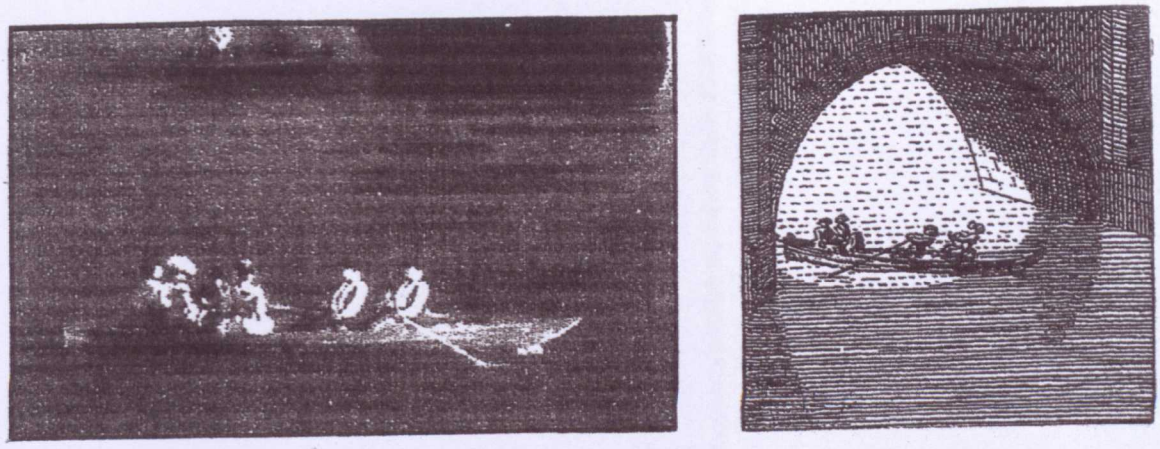


Fig. 45. The traditional passenger 'wherry', rowed by two oarsmen.

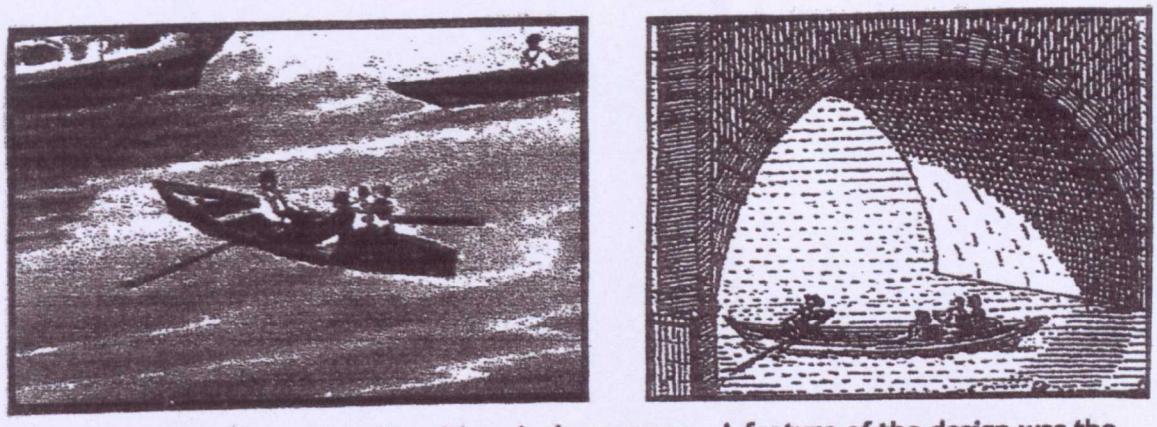


Fig. 46. The traditional 'scull', with a single oarsman. A feature of the design was the sharply pointed prow, which was generally driven on to a sloping shore to allow passengers to step on or off in safety.

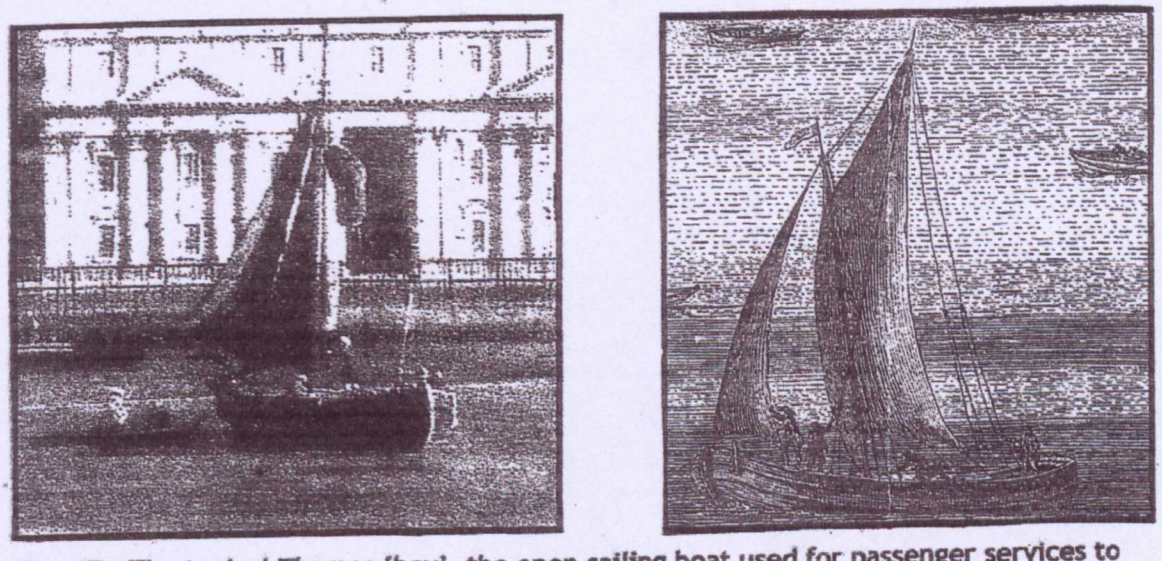


Fig. 47. The typical Thames 'hoy', the open sailing boat used for passenger services to Gravesend and beyond.

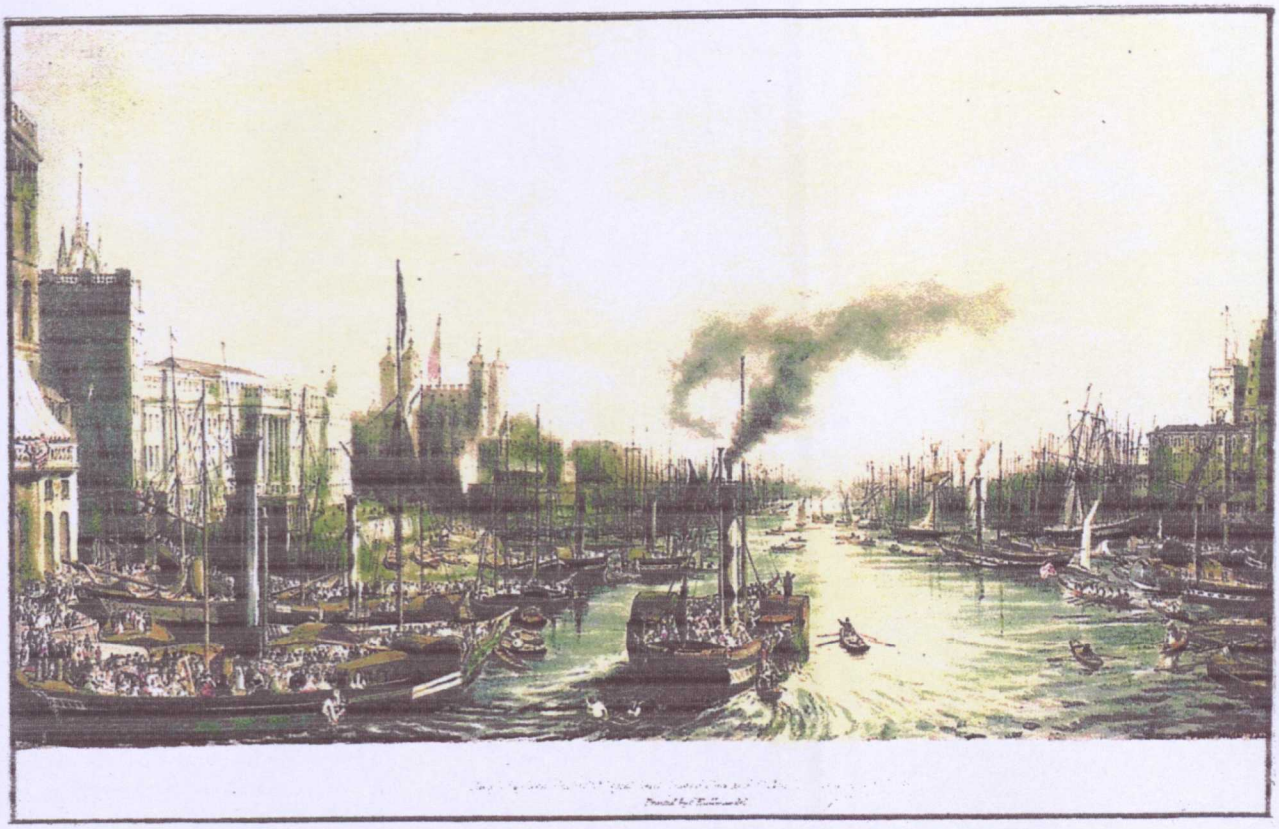


Fig. 48. Steamer activity on the Thames during the peak years of passenger services. In this scene at least eight steamboats can be made out. The numbers of passengers on the vessels suggest that this must have shown a summer bank-holiday occasion.

Fig. 49. The commuters' 'Halfpenny' steamboat *Cricket*, in service, and after the boiler explosion at the Adelphi steps in the summer of 1847.

NINE O'CLOCK A.M.: PENNY STEAMBOATS ALONGSIDE THE PIER AT LONDON BRIDGE.

Fig. 50. Clerks disembarking from a steamboat in the City.

Fig. 51. Easter Monday 1847: excursionists heading for Greenwich in a Thames steamer. As far as can be judged from this drawing from the *Illustrated London News*, all the passengers were essentially in the bourgeois / lower middle social class. If any working class passengers were aboard, it is impossible to identify them positively among these people; perhaps some might have been out of sight, behind the artist's position in a cheaper forward section of the vessel. Interesting features in this illustration are the trio of musicians, the helmsman just discernible beyond the group sitting on the wheel housing on the left, and the captain standing on the other wheel housing. Five or possibly six further steamboats, similarly crowded, can be seen in the background. The very fact that the artist has managed to include all the appropriate story-telling features in the one illustration suggests that it might have been somewhat constructed in the studio rather than being the 'snapshot' than it appears to be at first glance. That does not necessarily invalidate it as a representative picture of the scene, but leaves open the question of any identifiably working-class passengers being aboard.

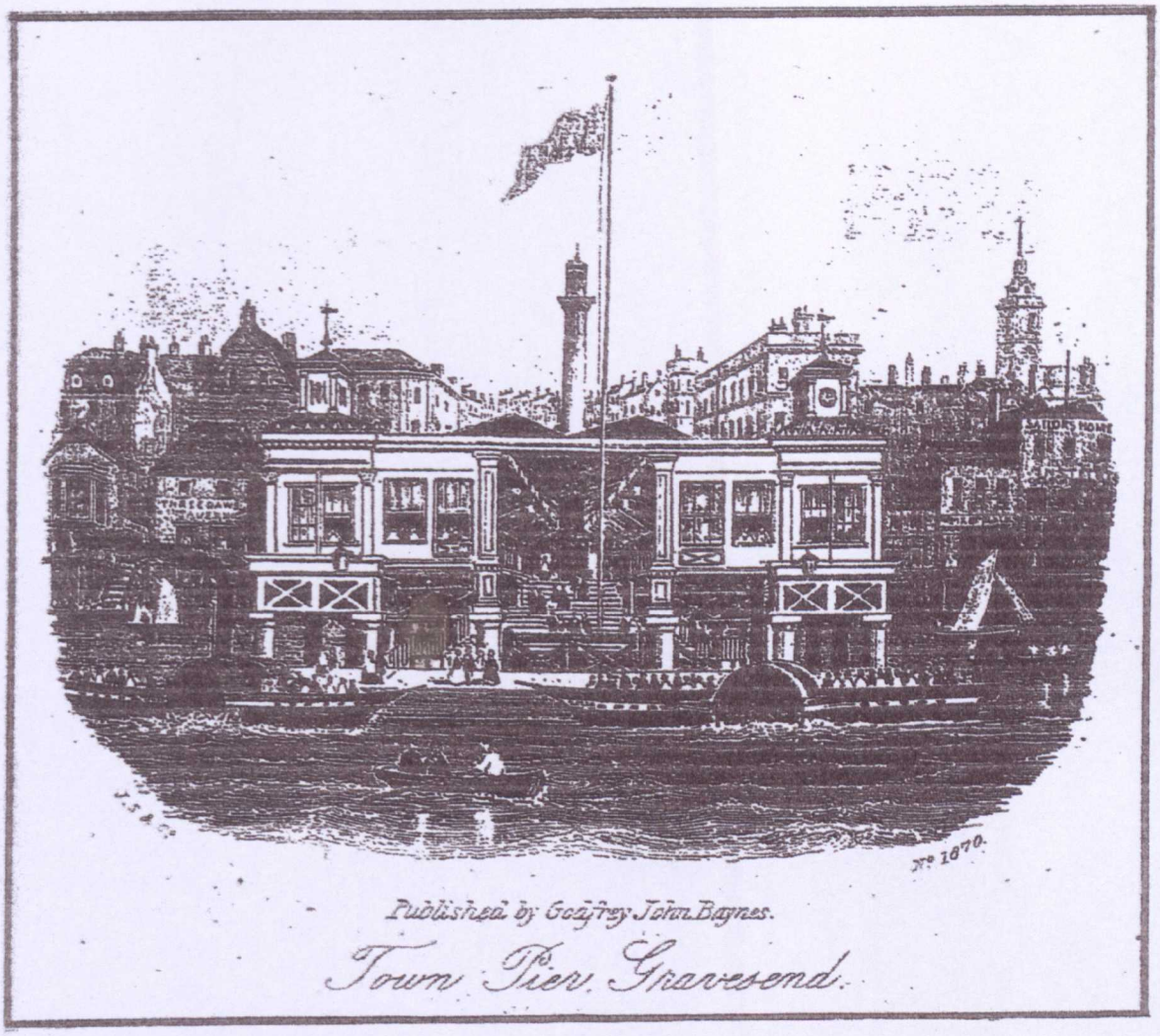


Fig. 52. The pier built at Gravesend in 1834 to serve visitors arriving by steamboat.

Fig. 53. The last employment available to Watermen was to ferry passengers to steamboats moored in mid river. In the original legend accompanying this painting of the scene at the London Custom House, the steam vessels were described as 'the Margate steam yachts'.

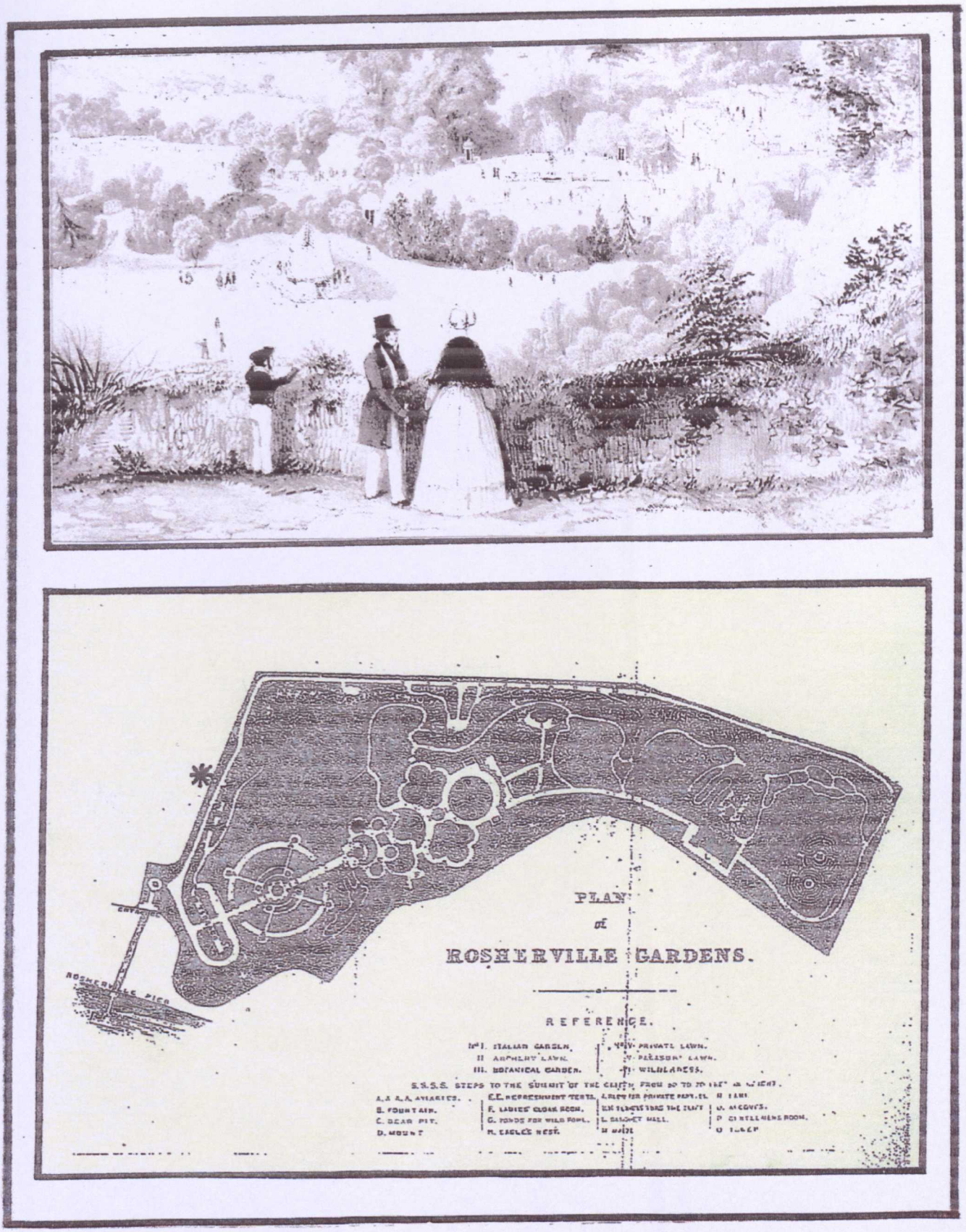
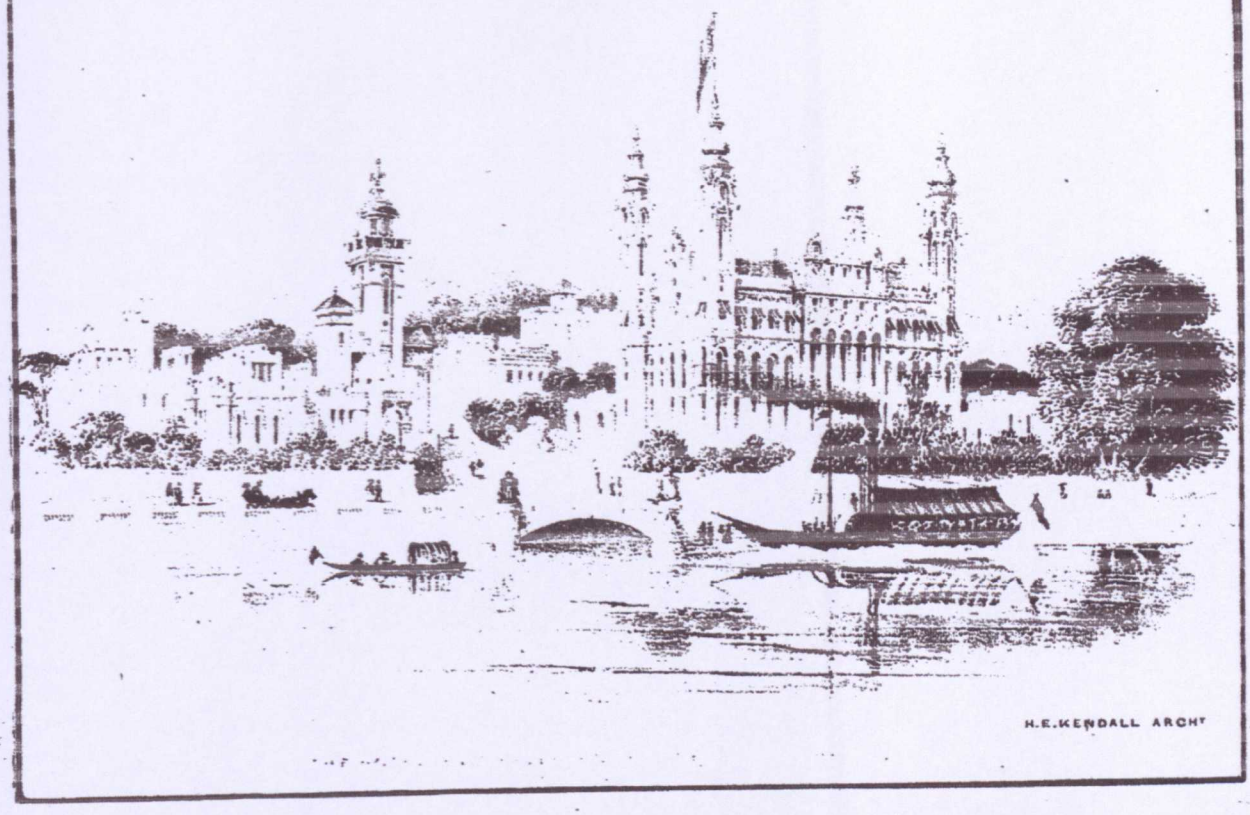


Fig. 54(a). Rosherville Gardens: a lithograph of about 1840 showing a view of the gardens. The figures in the foreground appear to be standing at the position on the perimeter of the gardens marked by the asterisk in the plan.



THE ROSHERVILLE HOTEL, situate on the Banks of the Thames, at a convenient distance from London. with the Rosherville Pier (at which all the Gravesend Steamers touch) in front, and the celebrated Gardens at the back, this delightful place of resort possesses advantages which few others, if any, can command. In announcing that they have re-opened the above Hotel for the season, WINCH and CALDER beg to return their sincere thanks to their friends and the public who distinguished them last summer with so large a share of patronage, and to solicit a continuance of those favours to which they flatter themselves they may lay claim by the strict attention and moderation in charges which have hitherto given such satisfaction. Every department will be conducted on the same plan as heretofore. WHITEBAIT and all other delicacies of the season will be in constant readiness, and in respect to the Wines it is merely necessary to say that they will be of the same choice description as those which have always met with such universal approbation.

Fig. 54(b). The hotel at the Rosherville Gardens. This lithograph made in about 1830 shows a building of remarkably palatial size and style for a hotel that apparently opened only during the summer season. It is possible that this illustration was made to promote a projected design, rather than showing the hotel that was eventually built. The advertisement for the hotel appeared in the *Illustrated London News* in the 1840s.

Fig. 55. All the drawings illustrating *The Adventures of Johnny Neveright or An Excursion to Gravesend*, as in this example, give the impression that in 1845 all the steamer passengers going to Gravesend were distinctly middle class.

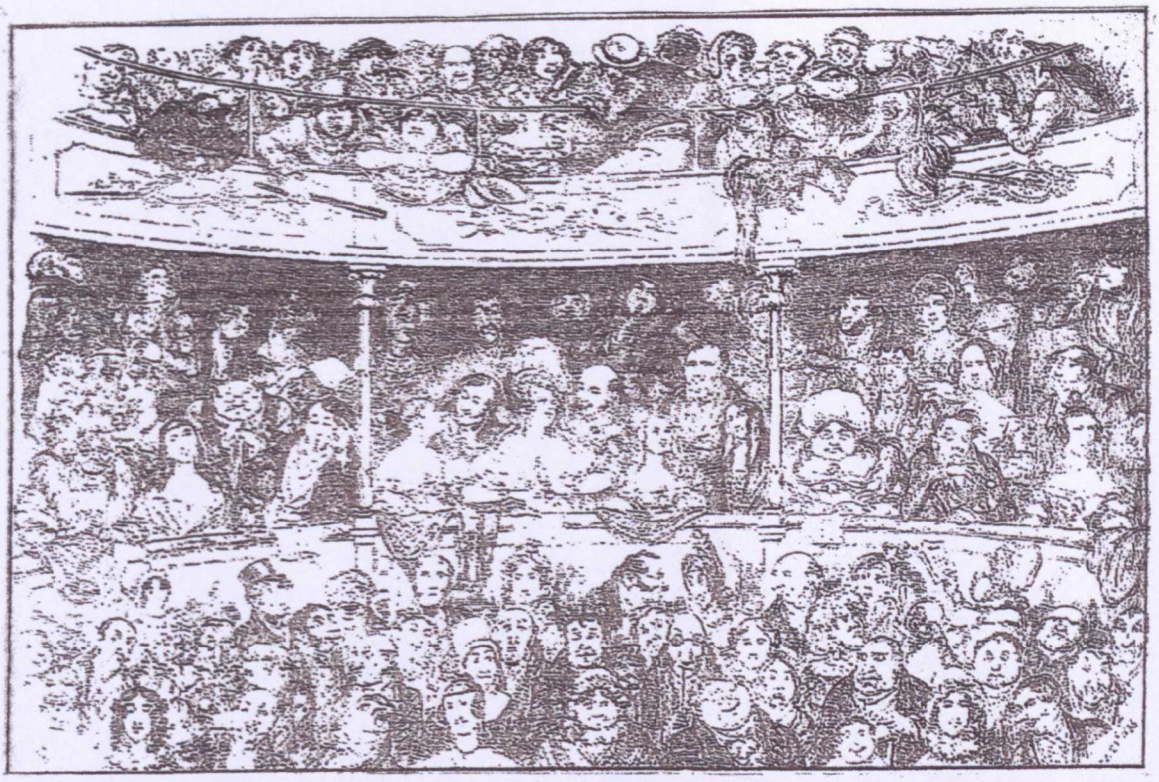


Fig. 56. This George Cruikshank drawing portrays what can be taken as a 'typical' audience at the Surrey Theatre in 1836, showing people probably similar to those going to see Selby's 'burletta' about Rosherville Gardens at the Adelphi Theatre. Evidence from other sources suggests that steamboat passengers to the gardens would have been generally much as those in the foreground of this drawing - that is, mostly bourgeois lower middle class. But the enormous numbers recorded as travelling by steamer on bank holidays suggest that some at least like those in the gallery in this theatre picture must also have been included.

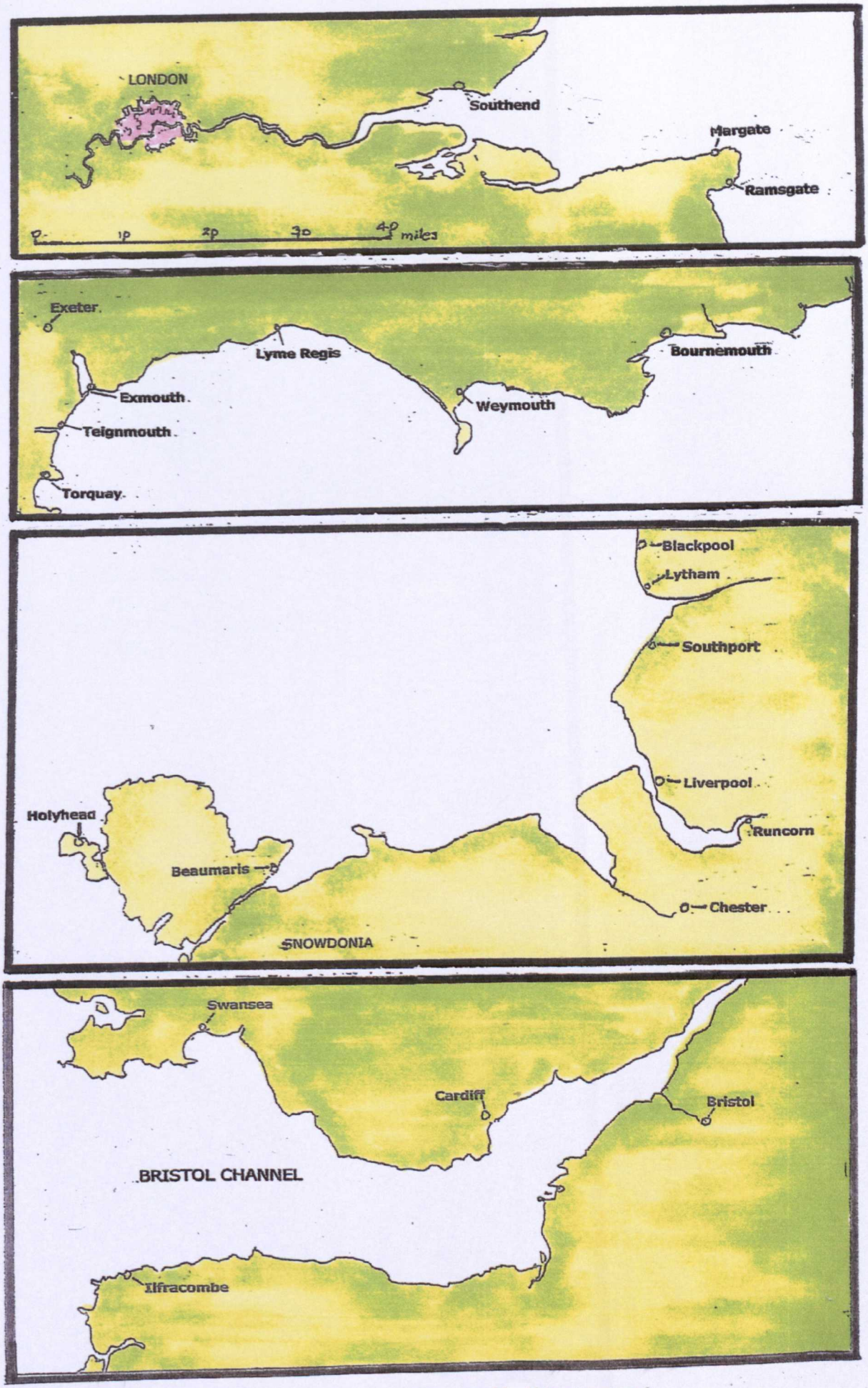


Fig. 57. Regions of English and Welsh coasts discussed in this chapter 6.

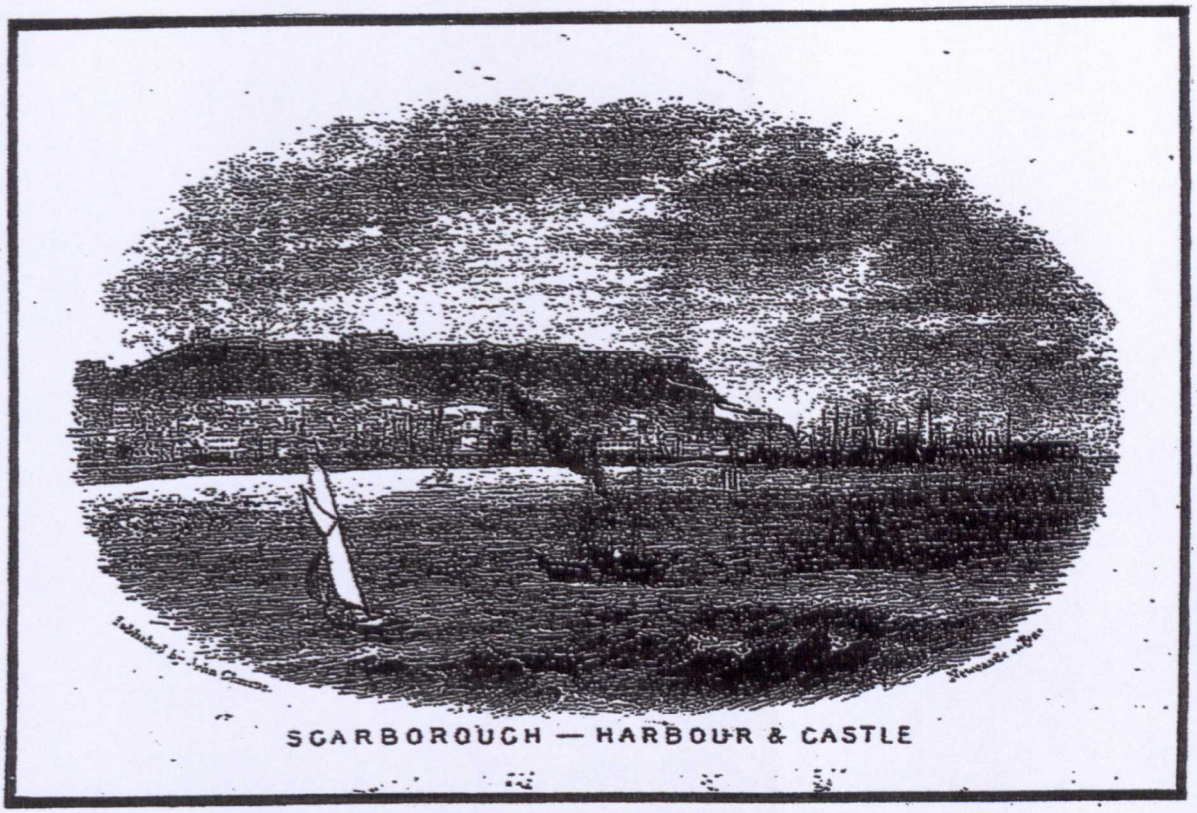


Fig. 58. The seafront at Scarborough, from a drawing made in about 1835. The steamboat is most probably one operating along the coast between Hull and Newcastle, shown moored at a buoy to drop and pick up passengers.

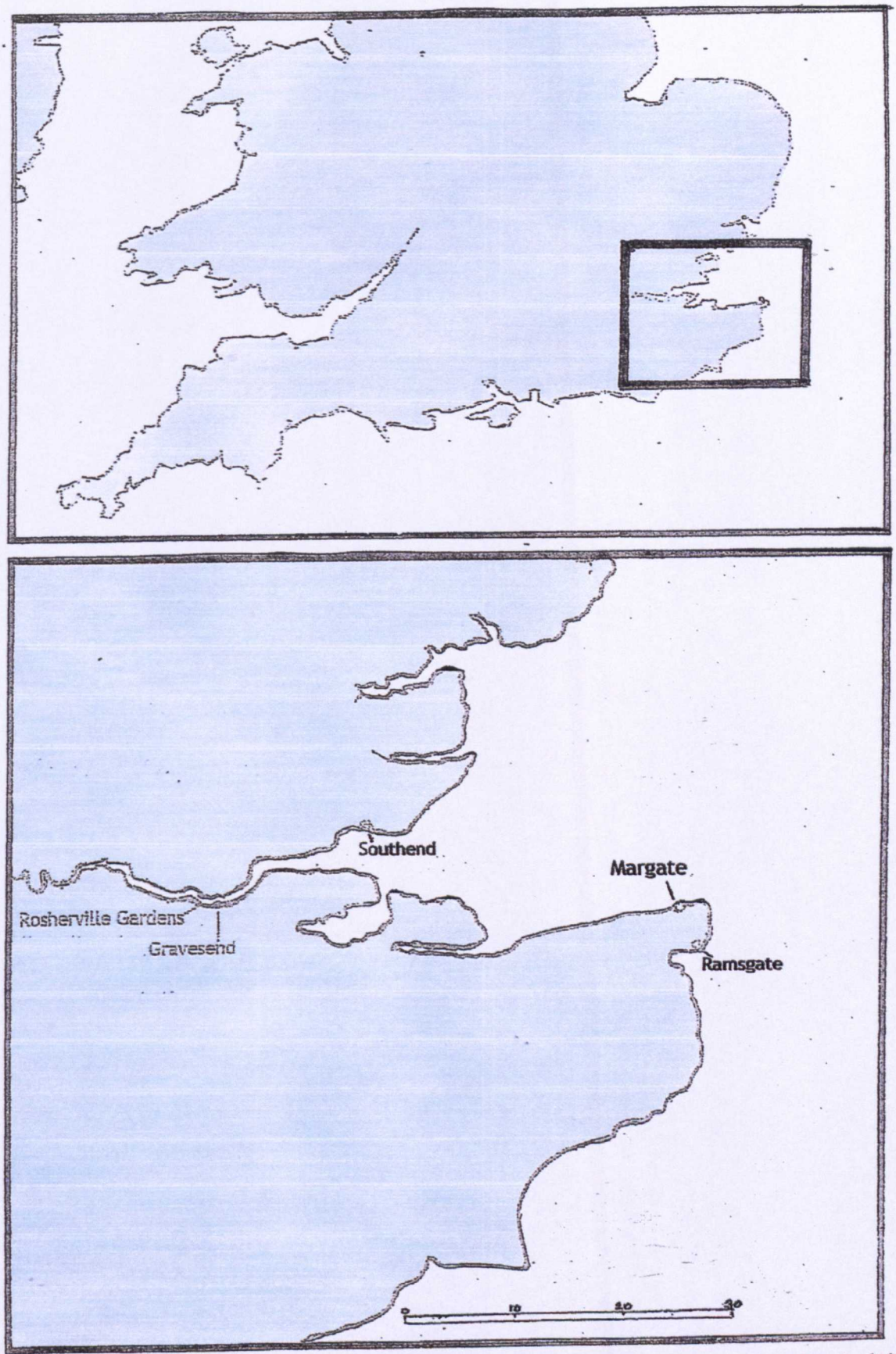


Fig.59. The relative remoteness of Margate from London would have contributed to its initial appeal as a summer resort for fashion leaders.

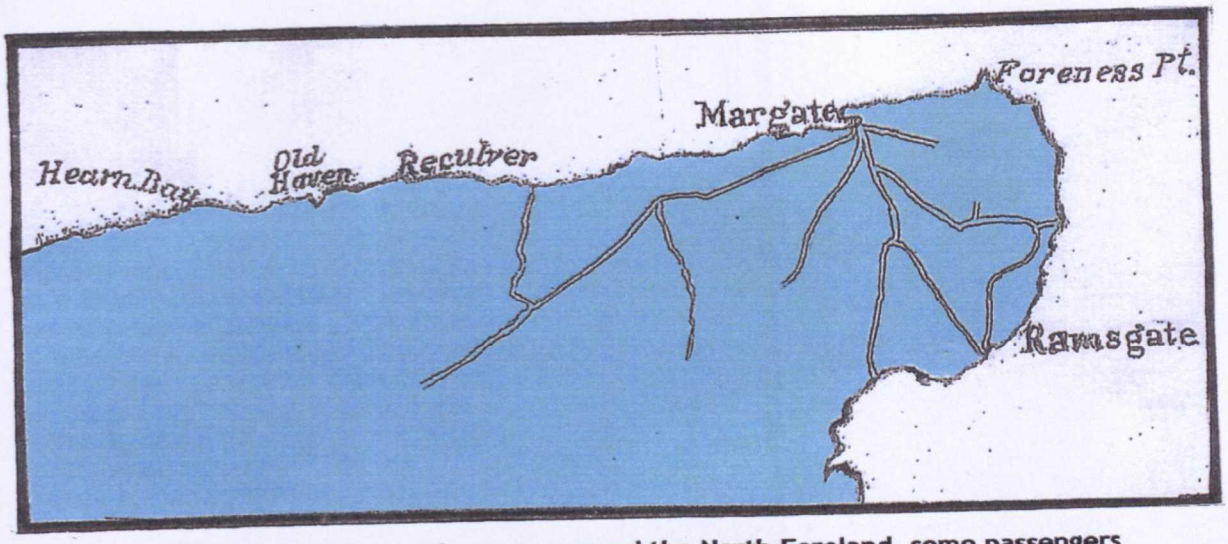


Fig. 60. To avoid a possibly rough passage round the North Foreland, some passengers for Ramsgate preferred to be dropped at Margate and taken the four miles across the peninsula by coach.

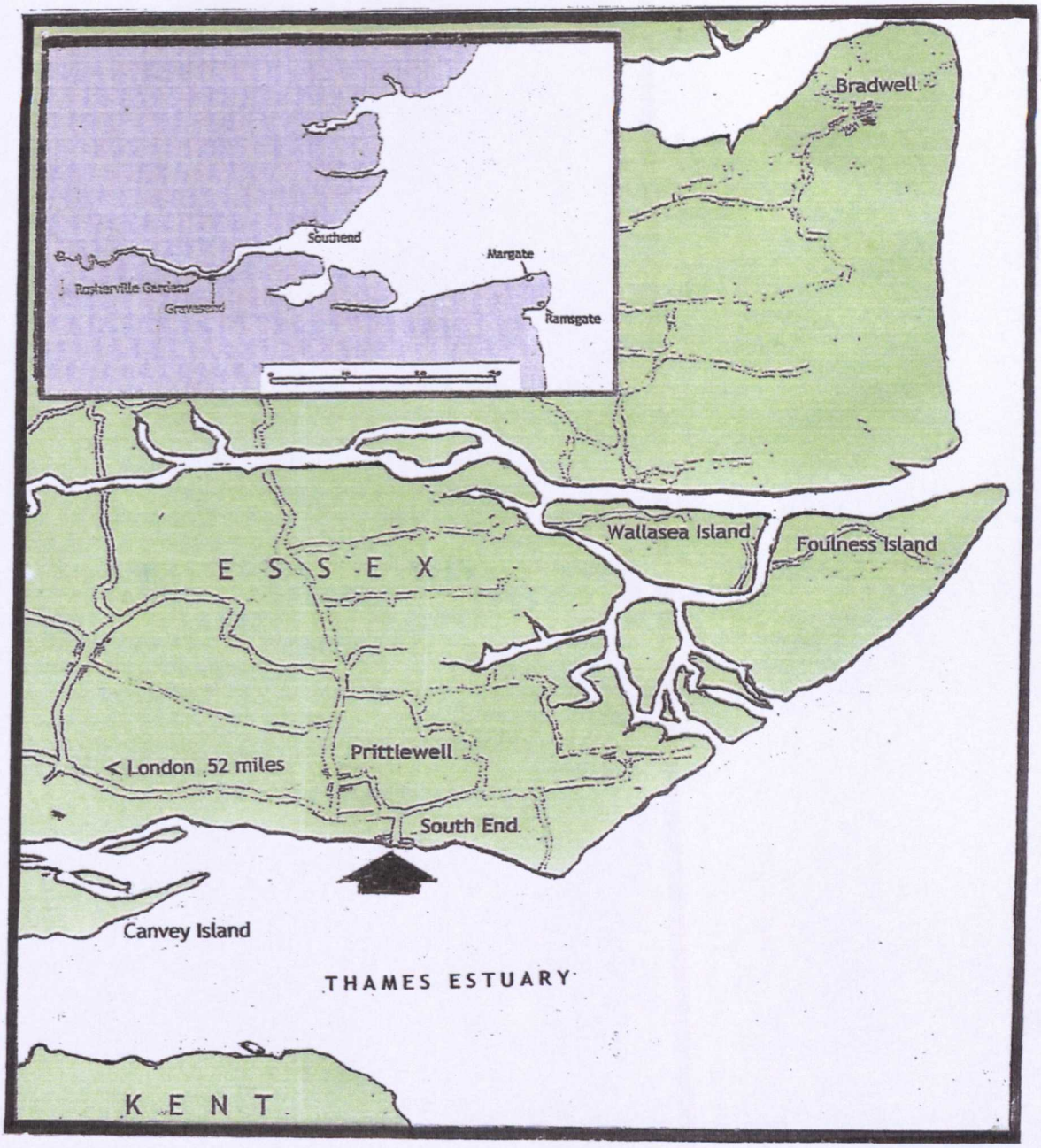


Fig.61. The location on the Essex coast south of Prittlewell where the resort of Southend was developed by local enterprise in 1768.

Fig.62. The beach at Southend in 1813, depicted by the artist William Daniell in his series of aquatints made in a tour of the coastline of Britain.

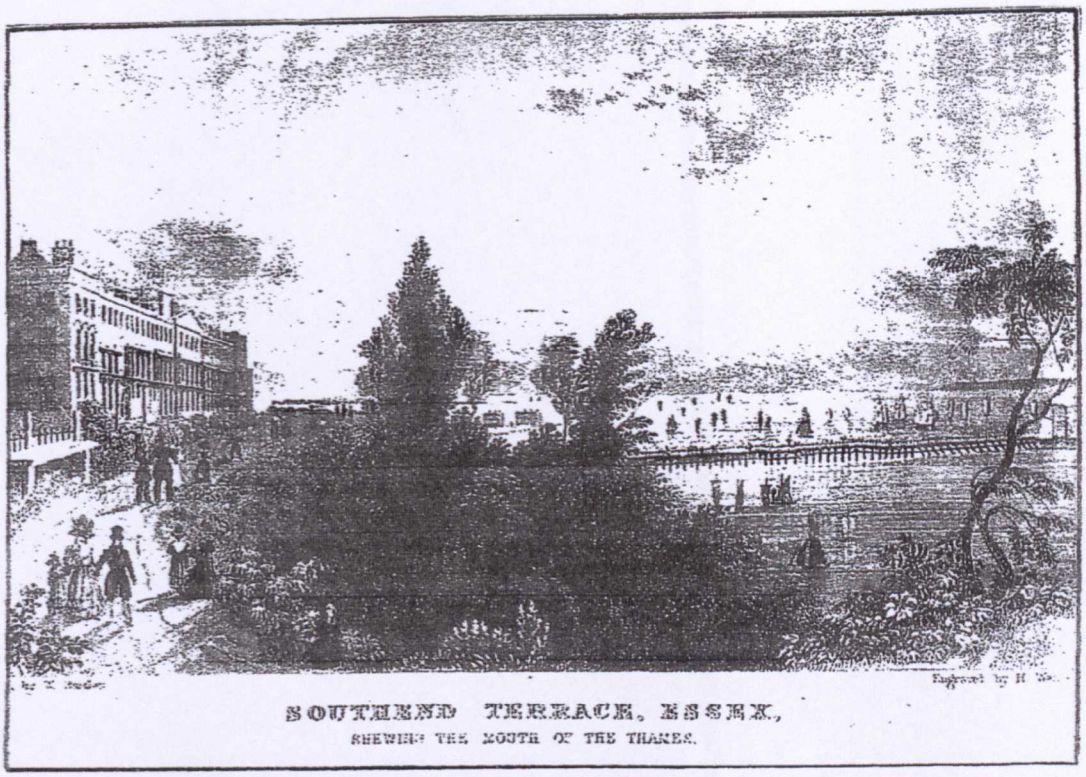


Fig. 63. The Terrace and pier at Southend. c. 1830.

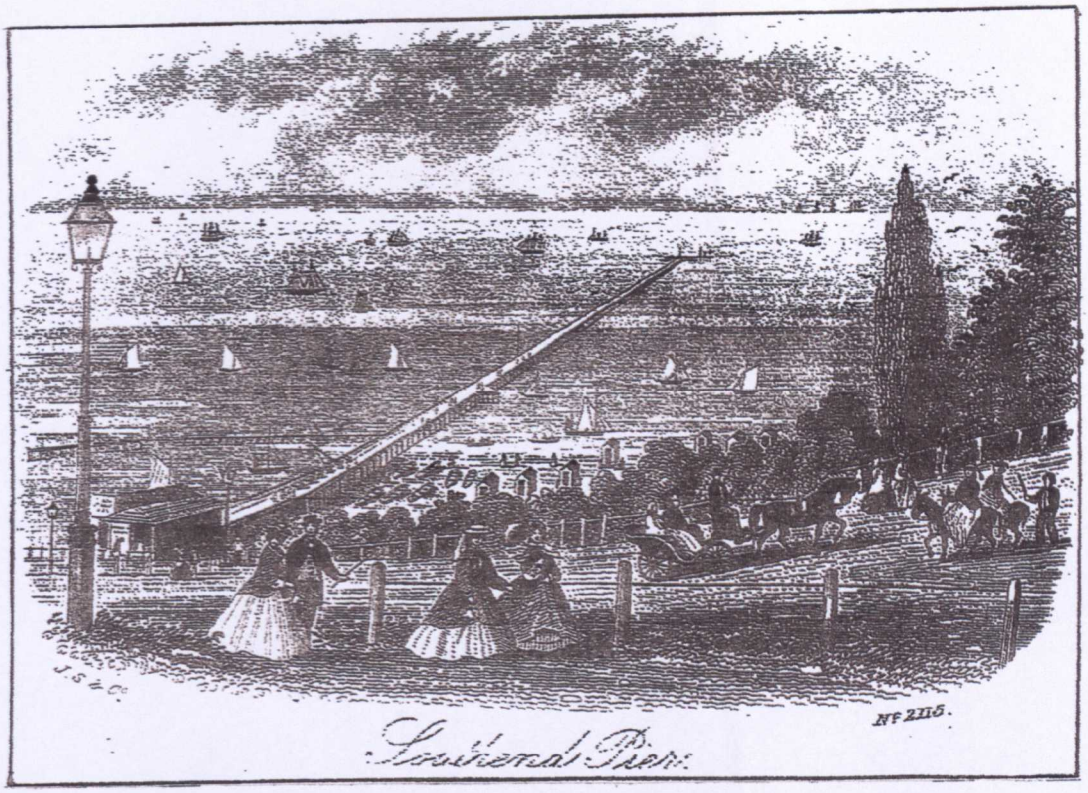


Fig. 64. Southend in 1872. The mile-long pier shown here facilitated access for steamboats, but by this time more visitors were coming by train.

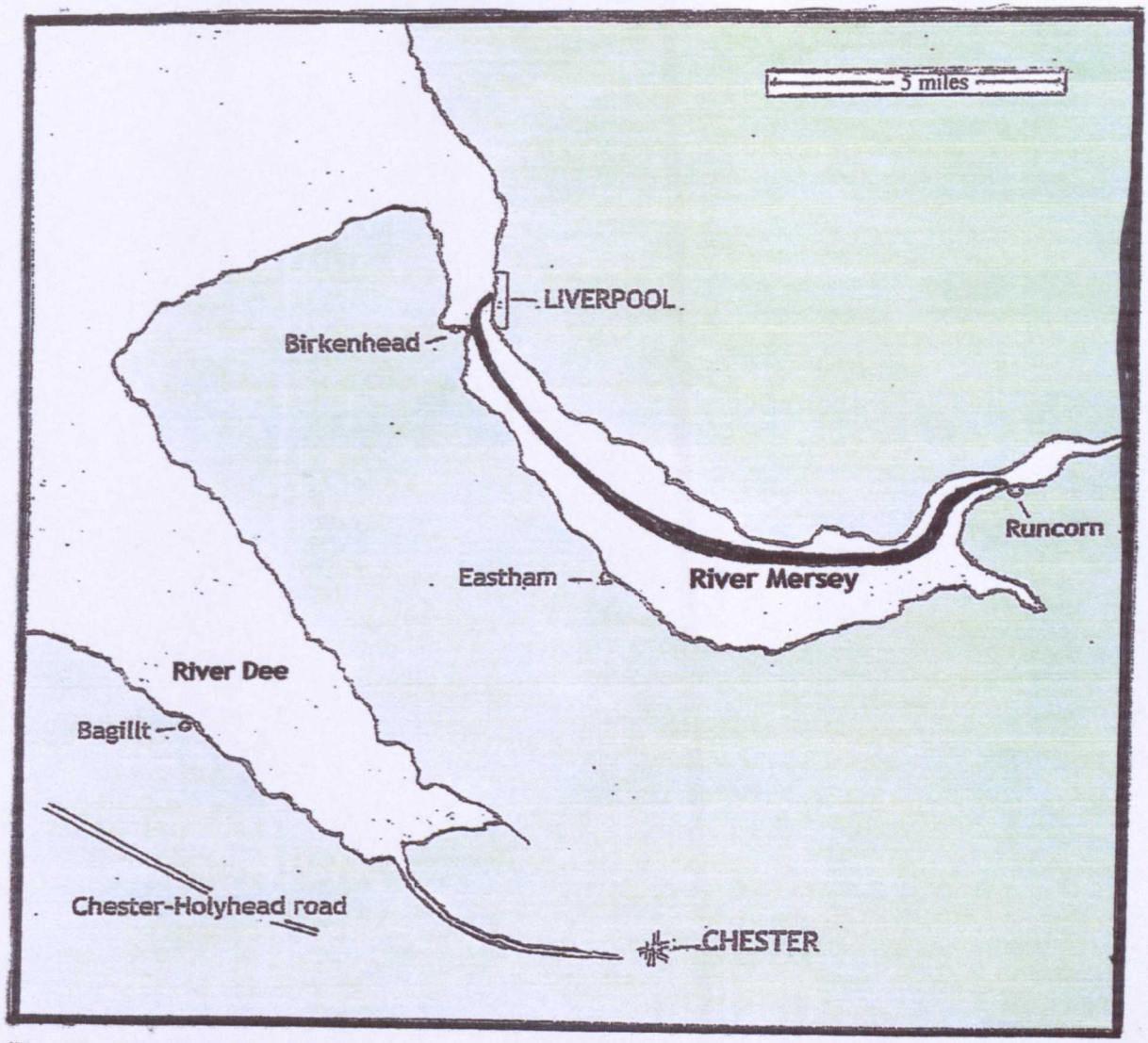


Fig. 65. Runcorn, Liverpool's local resort for bathing and retirement, was still appreciated for its rural setting and salubrious air in the late 1830s. Steamer services on the fifteen-mile route shown here saved visitors a tedious journey by road and ferry.

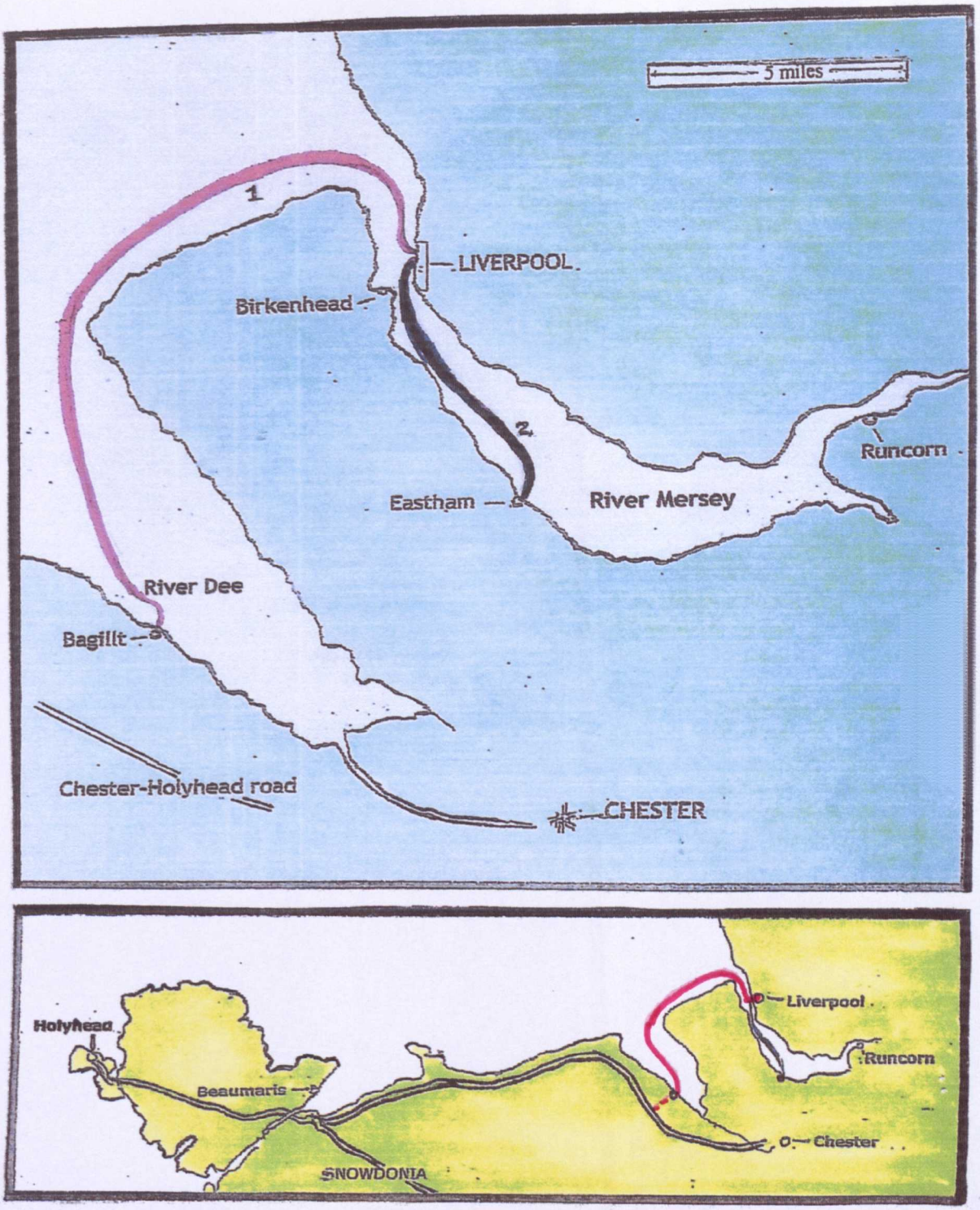


Fig. 66. Steamboat services from 1821 introduced easier travel from Liverpool. The service to Bagillt on the Flintshire coast (1) gave improved access to the Chester-Holyhead road, and the crossing by steamboat to Eastham on the Wirral peninsula (2) facilitated travel to Chester.

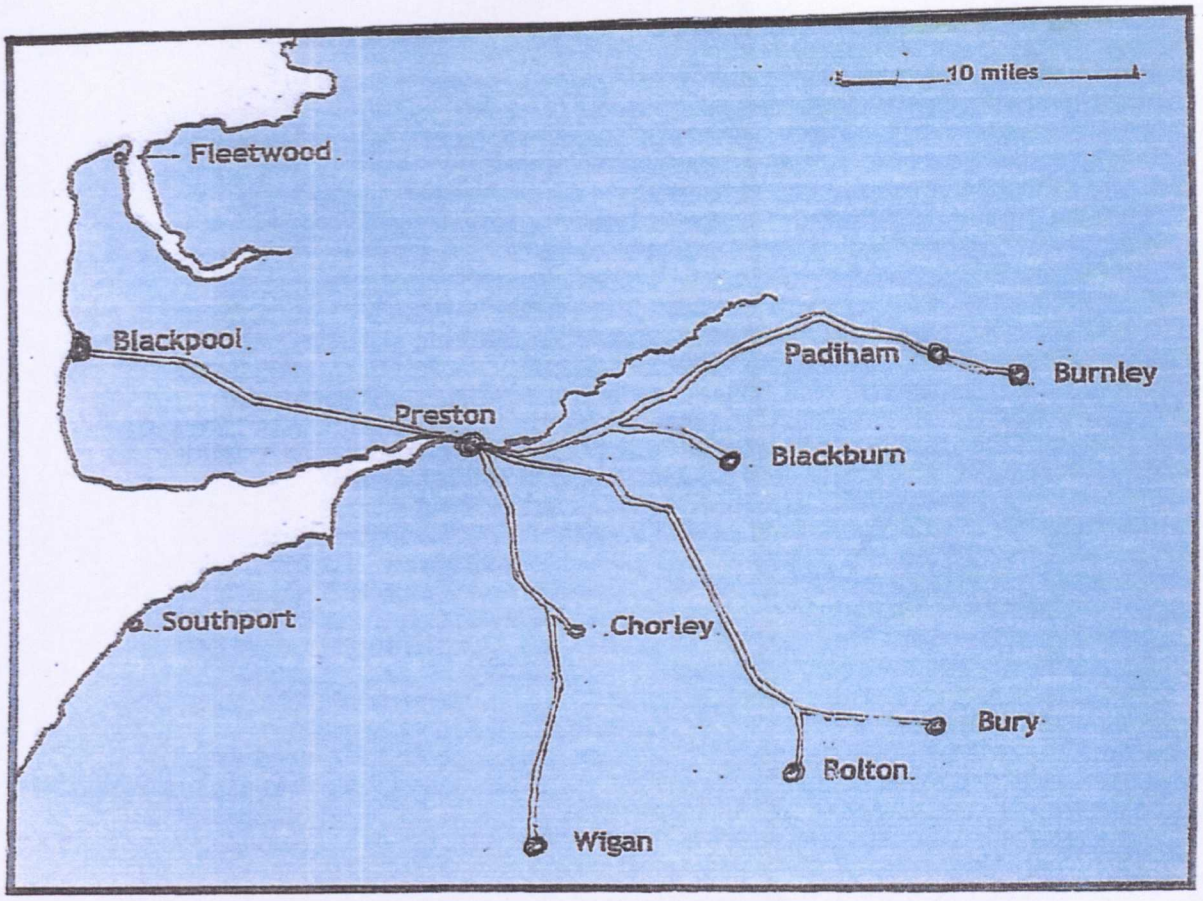


Fig. 67. Roads from Lancashire mill towns, based on contemporary maps, by which workers would have trekked to Blackpool.

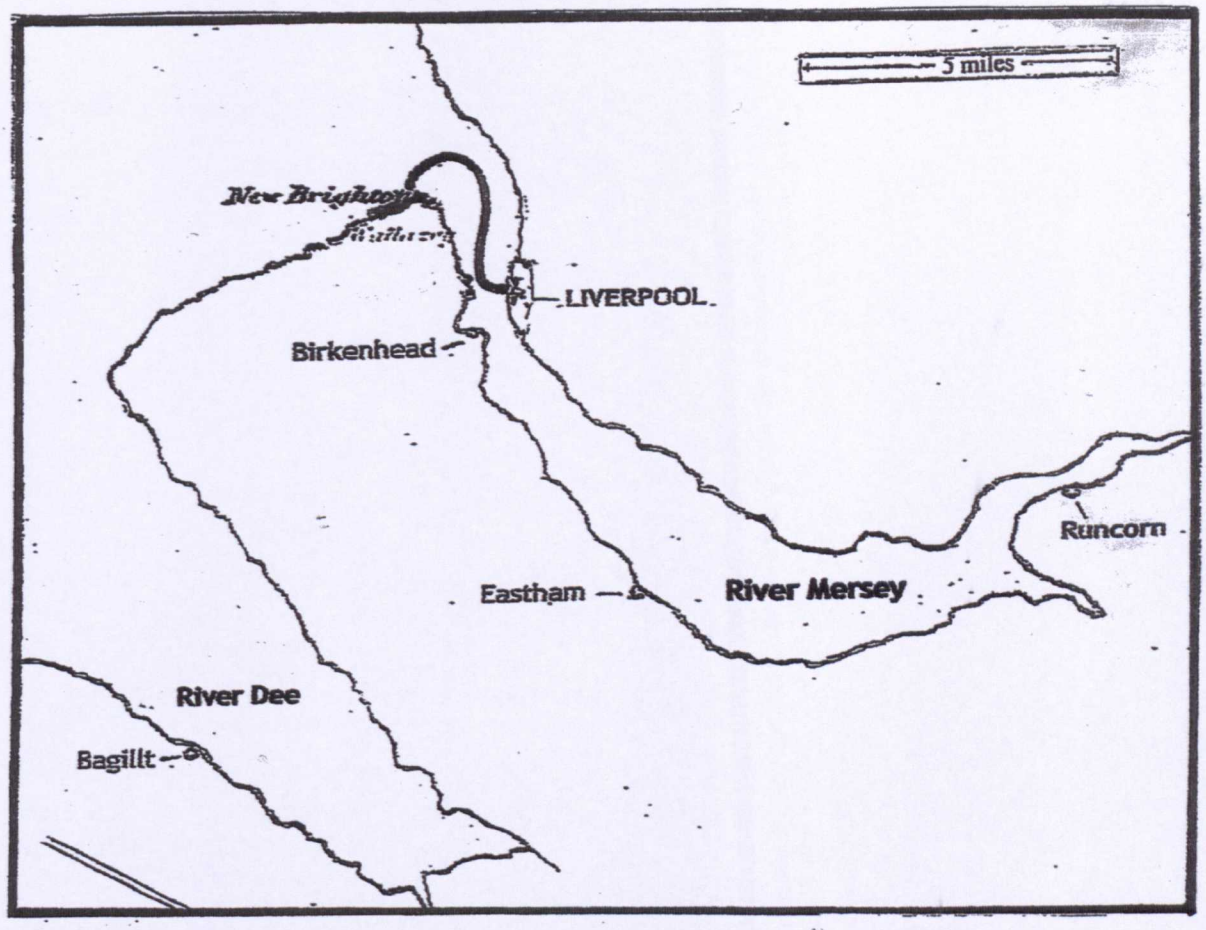
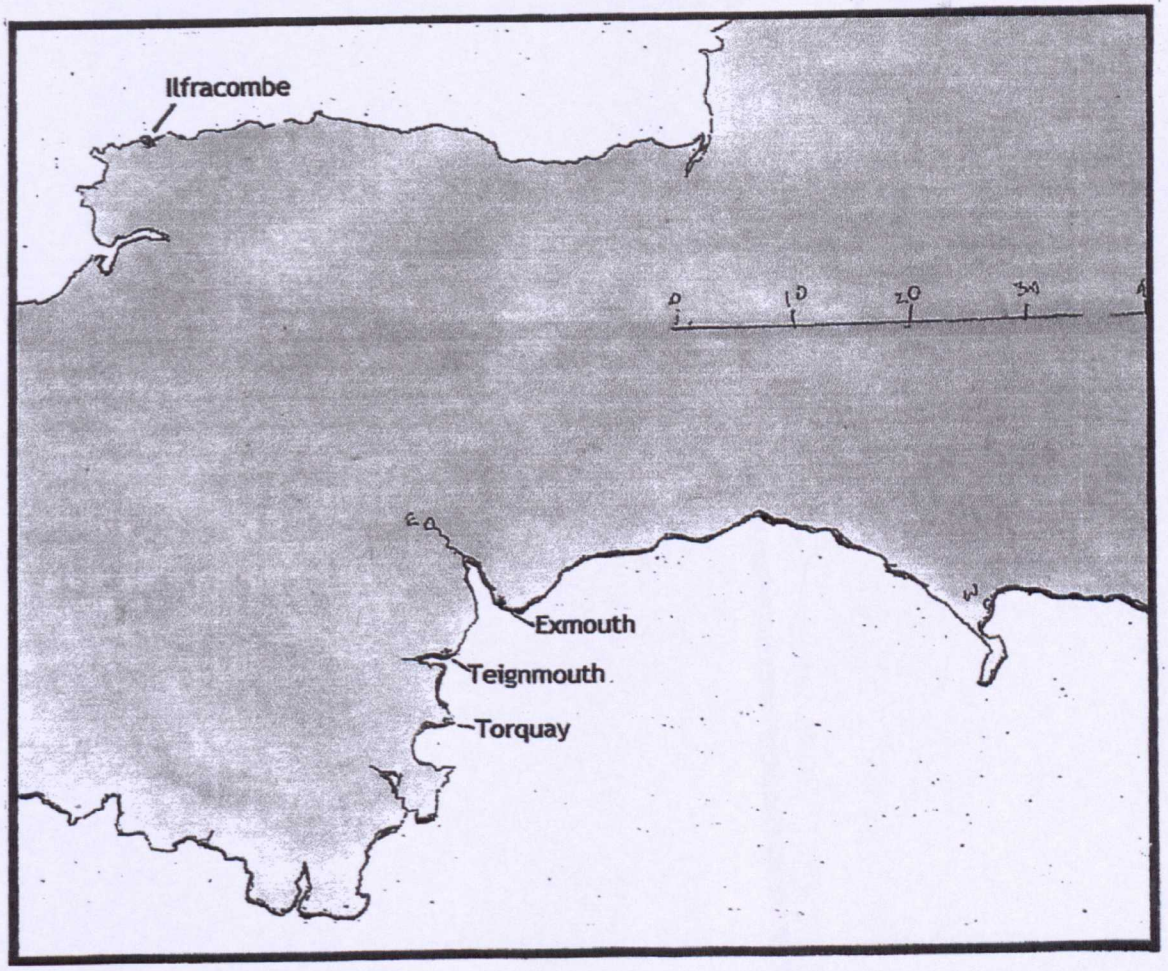


Fig. 68. The location of New Brighton, opened as a new resort in 1833, with its own steamboat service from Liverpool.

Fig. 69. The coasts of Devon, where resorts attracted high-society summer visitors from as early as 1750. On the more rugged north coast, resorts such as Ilfracombe were fewer and less accessible than those in the south such as Exmouth and Teignmouth.



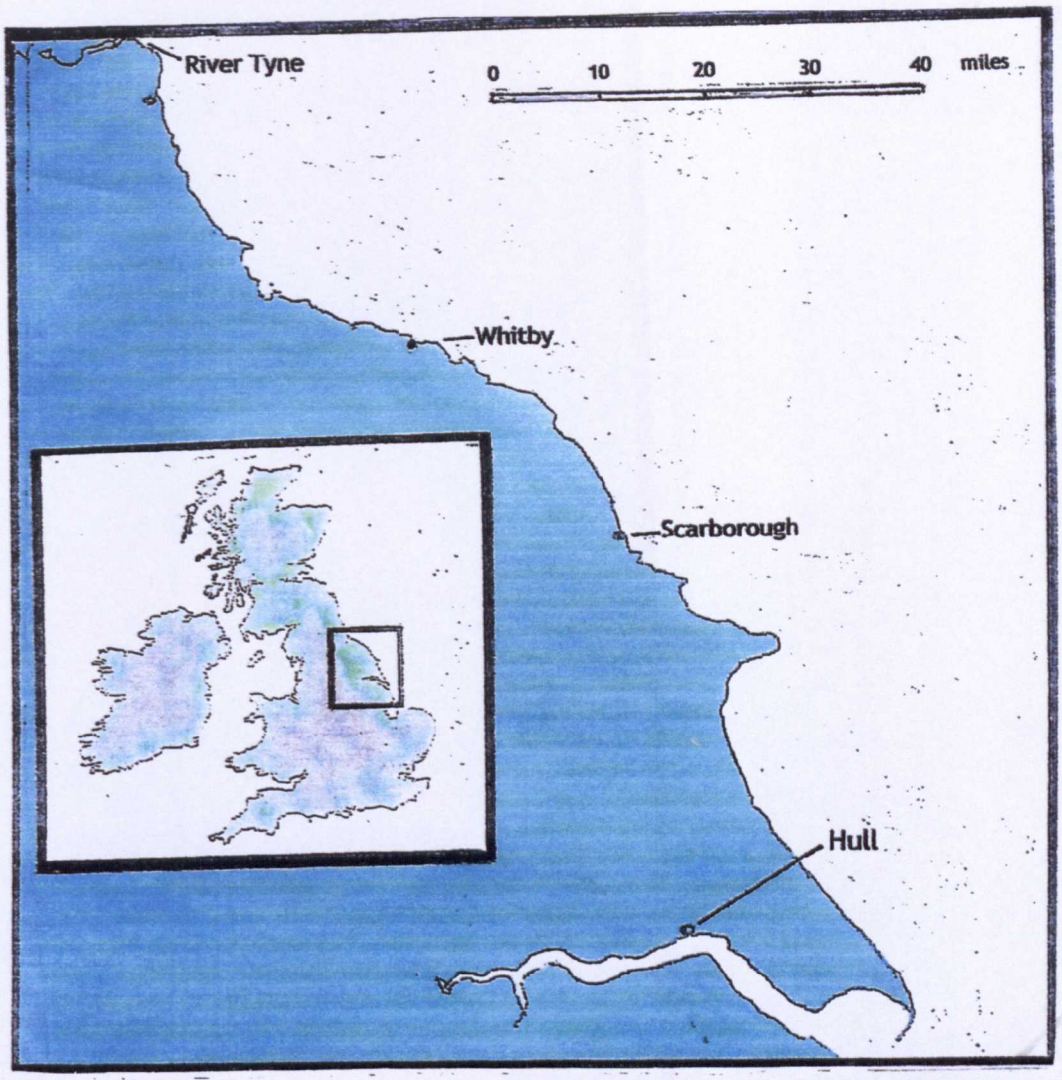


Fig. 70. The simplest way for Regency visitors to reach the northern resorts of Whitby and Scarborough was by road. Rail services from York followed. The steam packets serving Scarborough in the 1830s were generally on coastal routes.

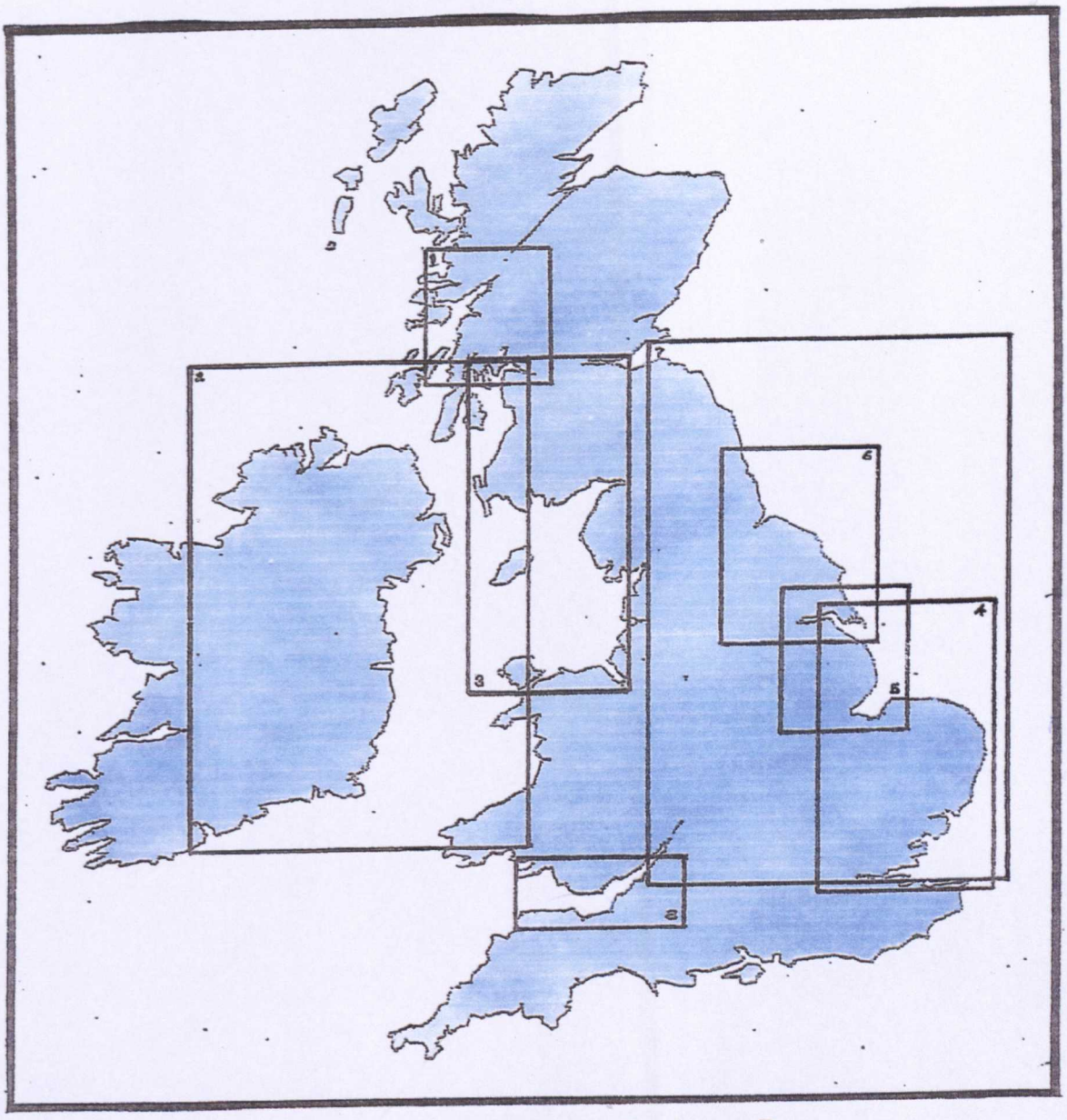


Fig. 71. Coastal paddle-steamer operations discussed in chapter 7.

1. Henry Bell's Hebridean and Highland service to Fort William.
2. Transport of Irish immigrants to Glasgow.
3. Liverpool-Glasgow services.
4. Hull-London coastal service.
5. Gainsborough-King's Lynn inland/coastal service.
6. Goole-Newcastle inland/coastal service.
7. East coast, London-Leith (for Edinburgh).
8. Bristol Channel services.

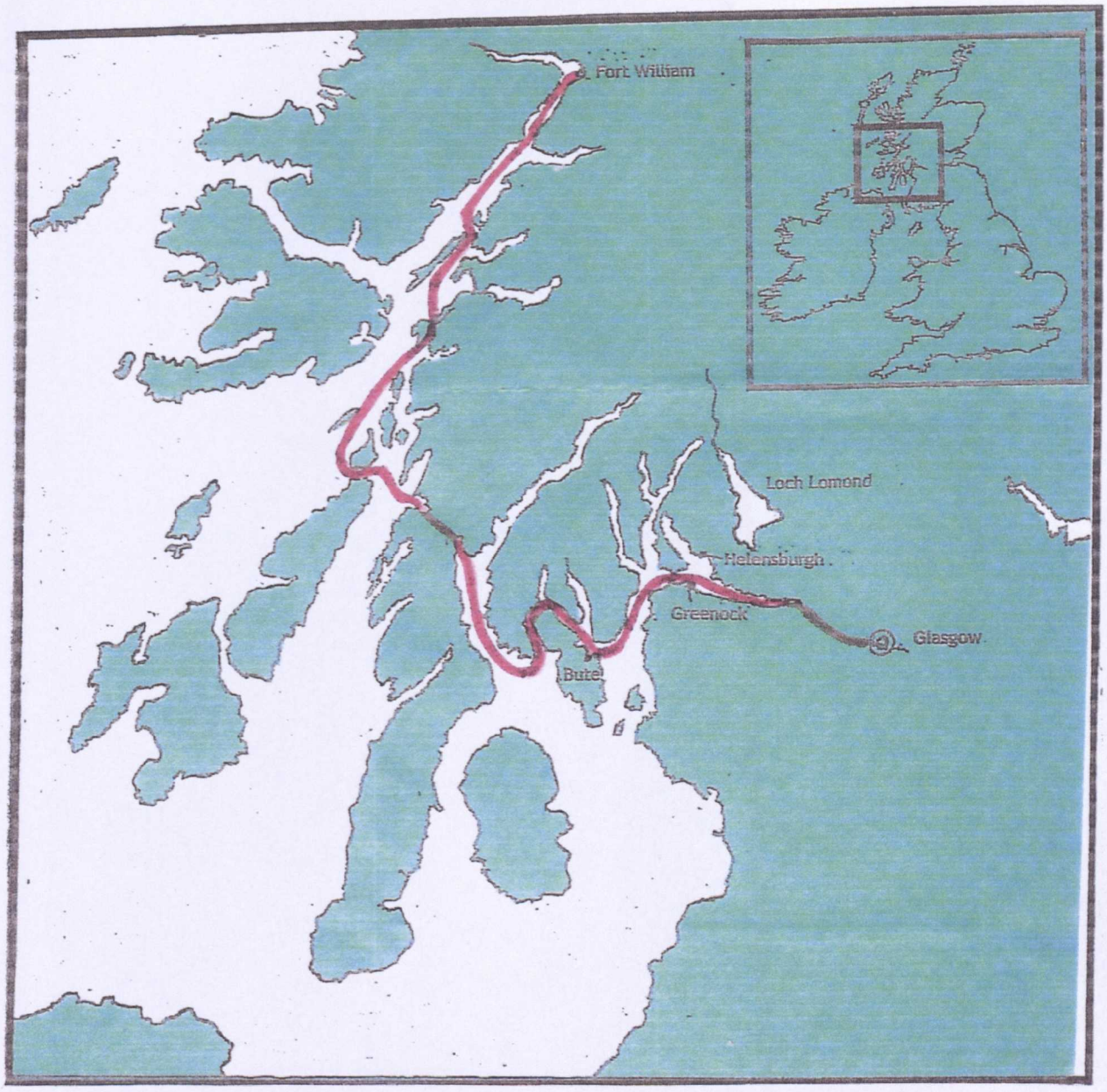


Fig. 72. The route to Fort William from Greenock taken by Henry Bell with his Hebridean and Highland steamer service.

Fig. 73. Steamboat routes, established by the 1840s, by which Irish immigrants to Scotland were carried to Greenock and Glasgow.

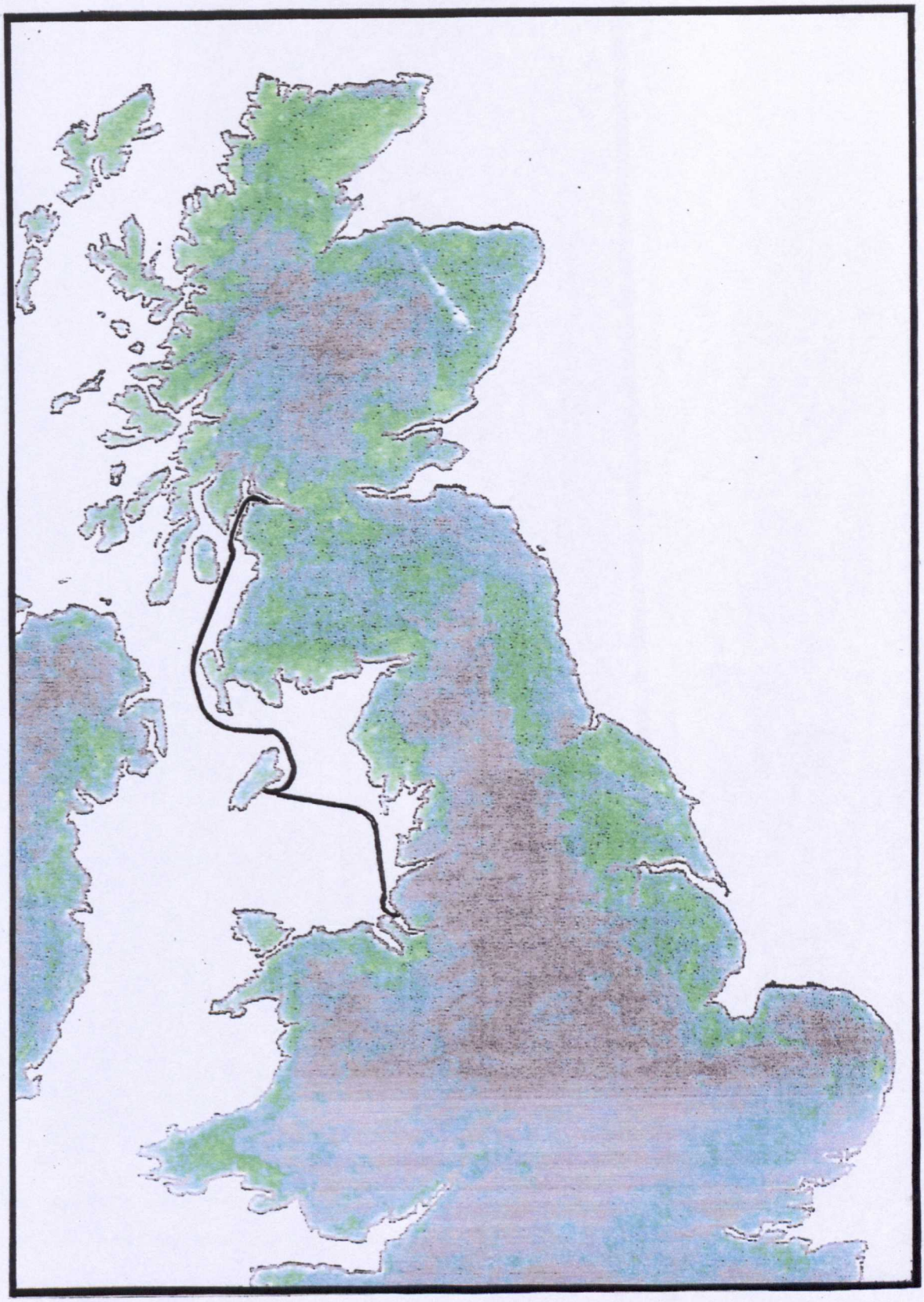


Fig. 74. Direct steamer services between Liverpool and Glasgow began in 1819.

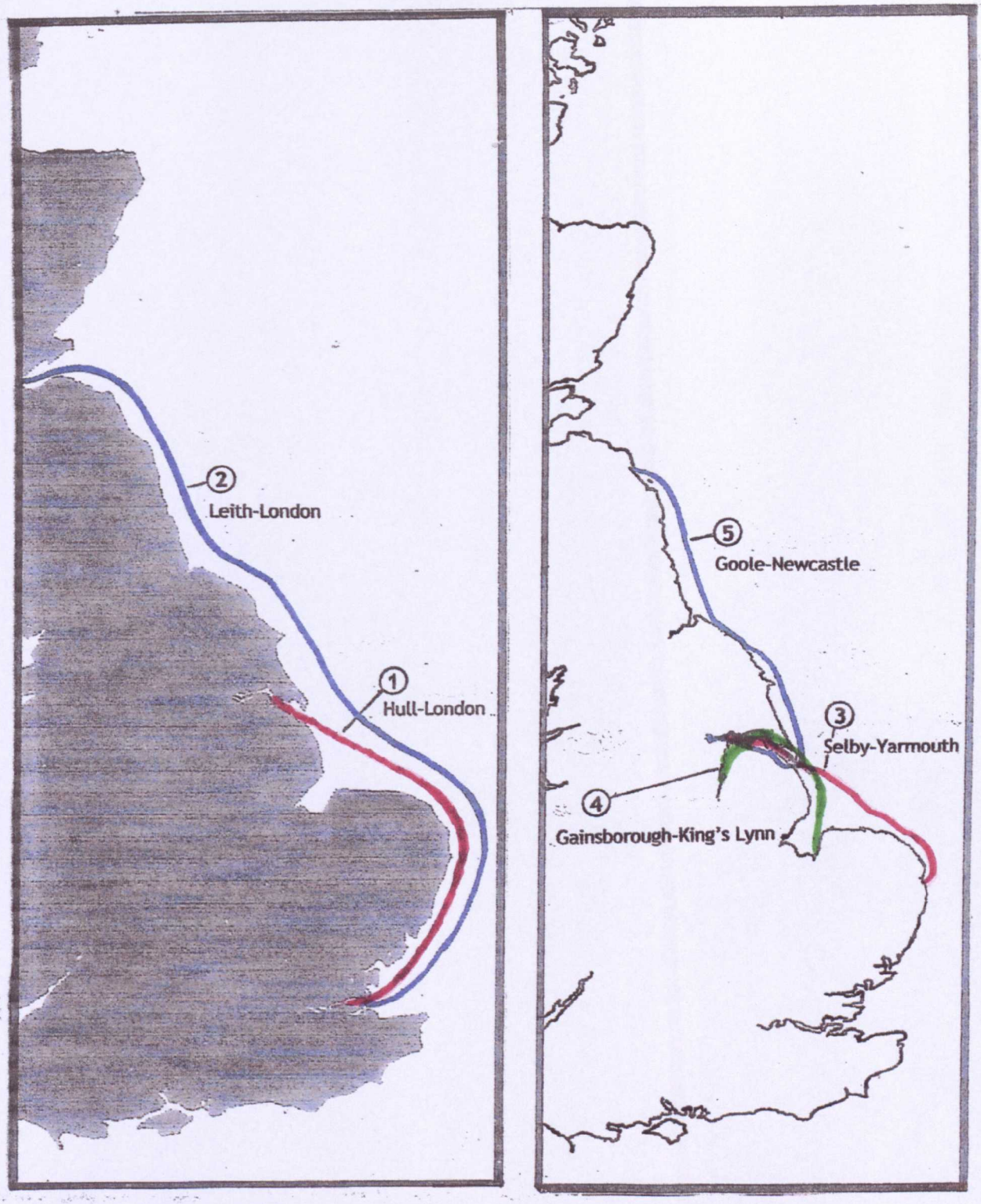


Fig. 75. Selected early east-coast and inland/coastal steam packet operations.

1. 1821, first Hull-London.
2. 1821, first Edinburgh (Leith)-London.
3. 1824, Selby-Yarmouth.
4. C.1825, Gainsborough-King's Lynn.
5. C.1825, Goole-Newcastle, calling off Scarborough.

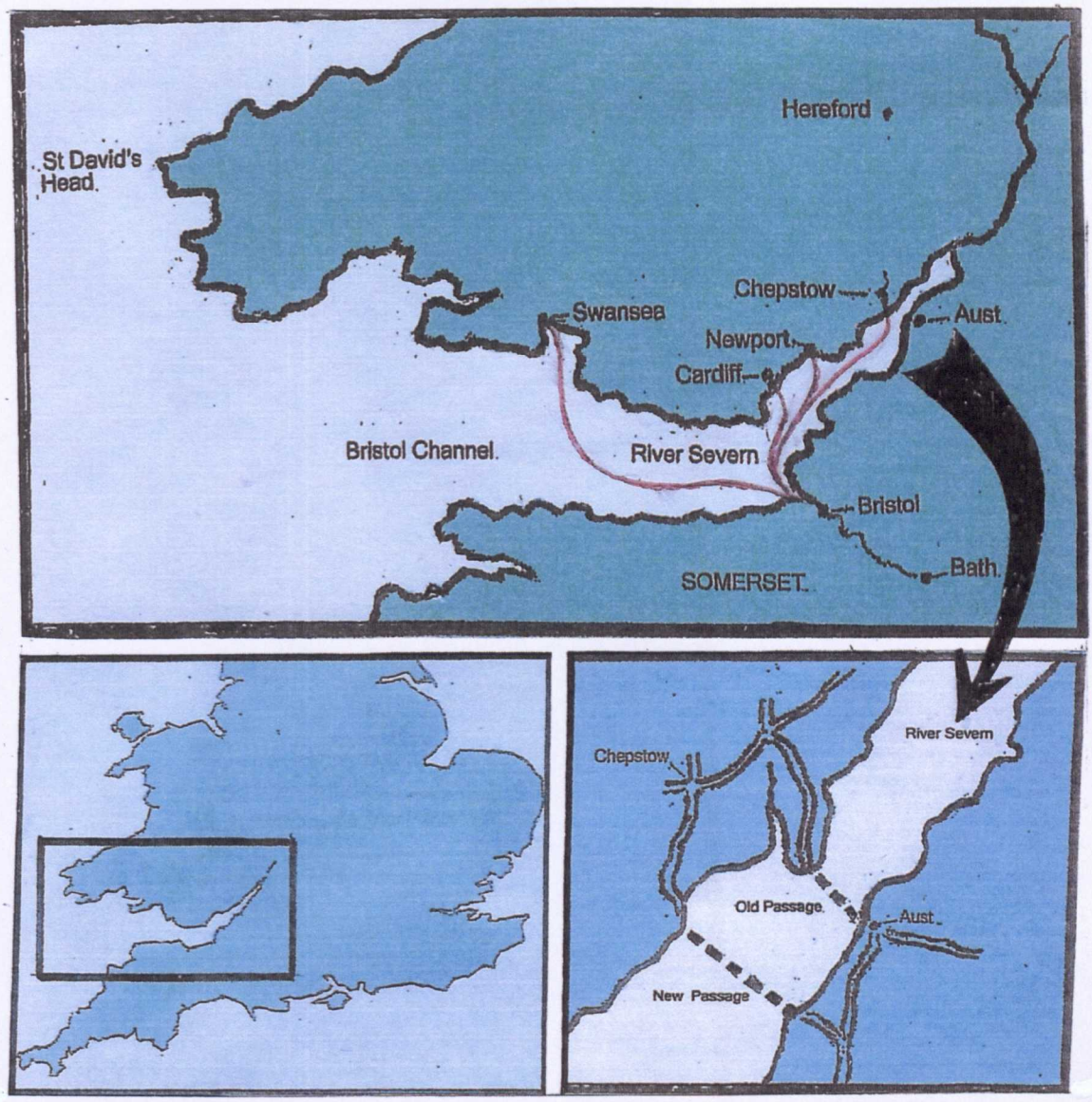


Fig. 76. The Bristol Channel. For centuries the most convenient way for travellers to travel between England and South Wales, avoiding a long detour through Gloucester, was to use the ferry over the river Severn at Aust (detailed). After the 1820s, scheduled steamer services operated between Bristol and Swansea, Cardiff, Newport and Chepstow.

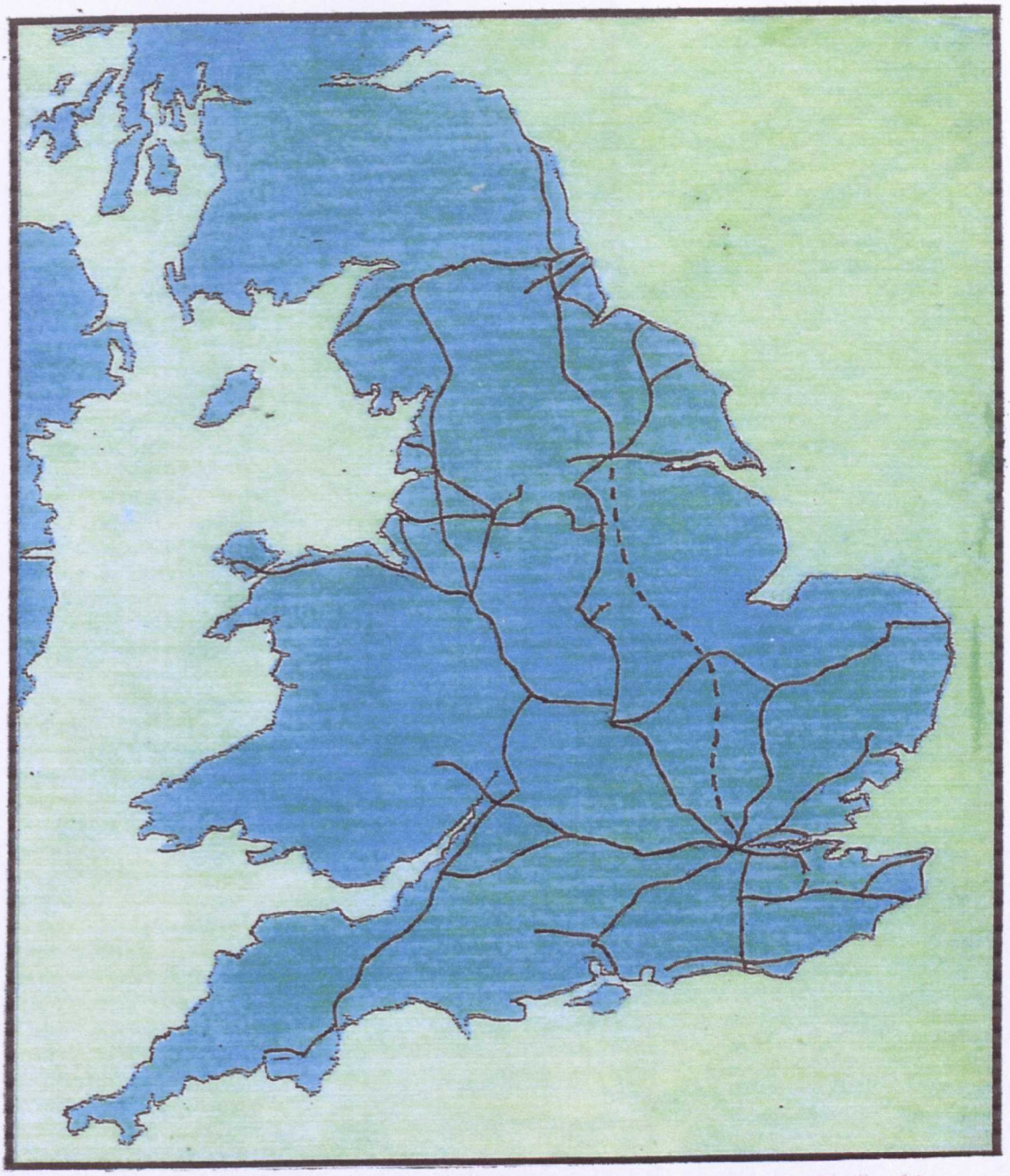


Fig. 77. The piecemeal promotion and construction of early railways in England is shown by the lines on this map of the rail network as it was in the late 1830s. It was only when a through route (the dotted line) was completed that passengers could go by train directly from London to Scotland. Until then the coastal sea route remained the preferred way to travel between London and Edinburgh.